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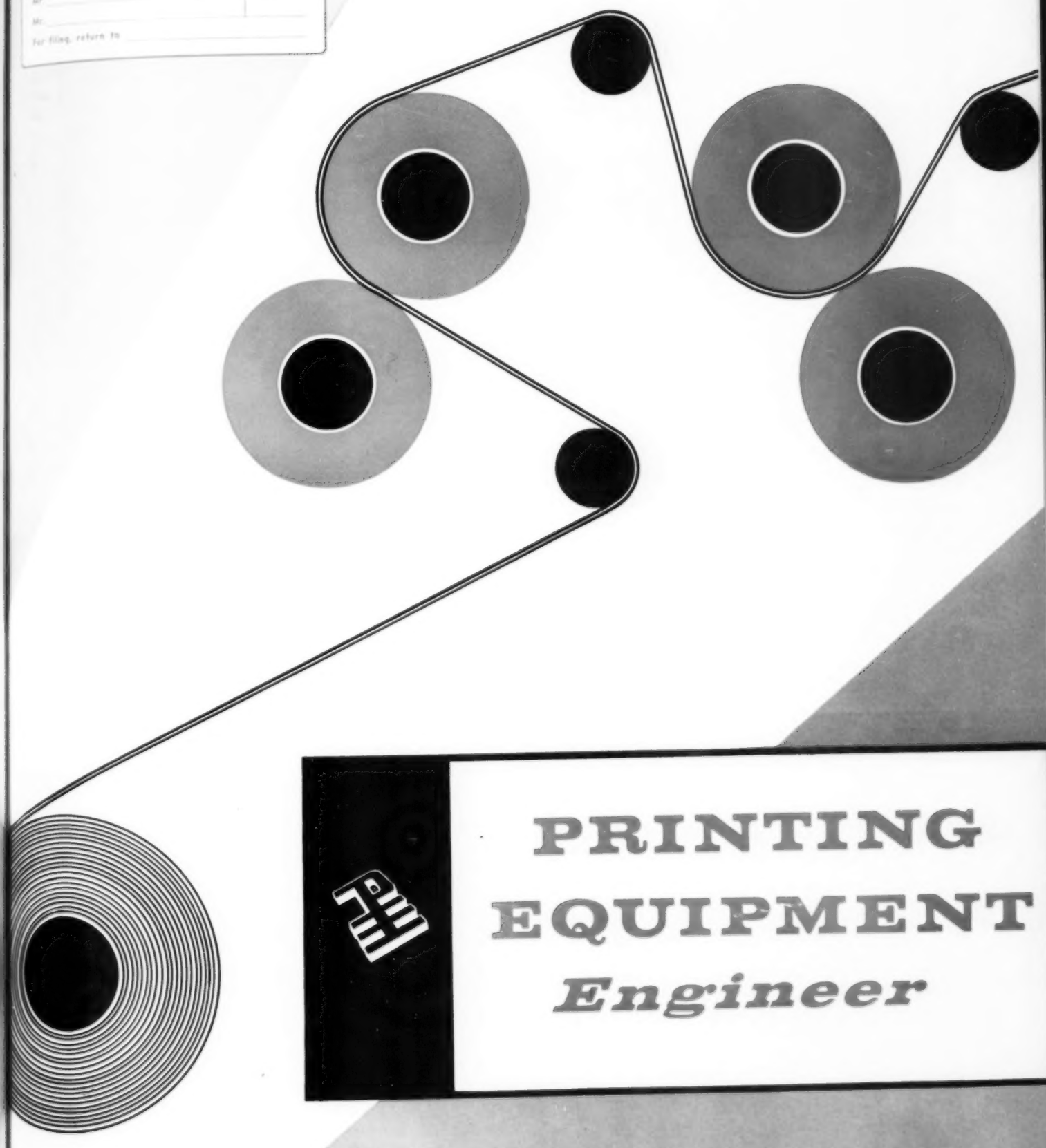

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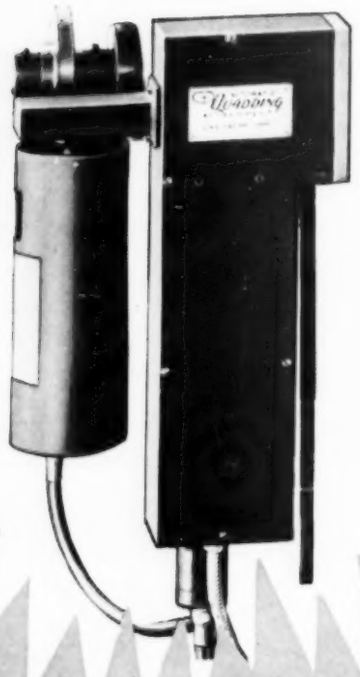

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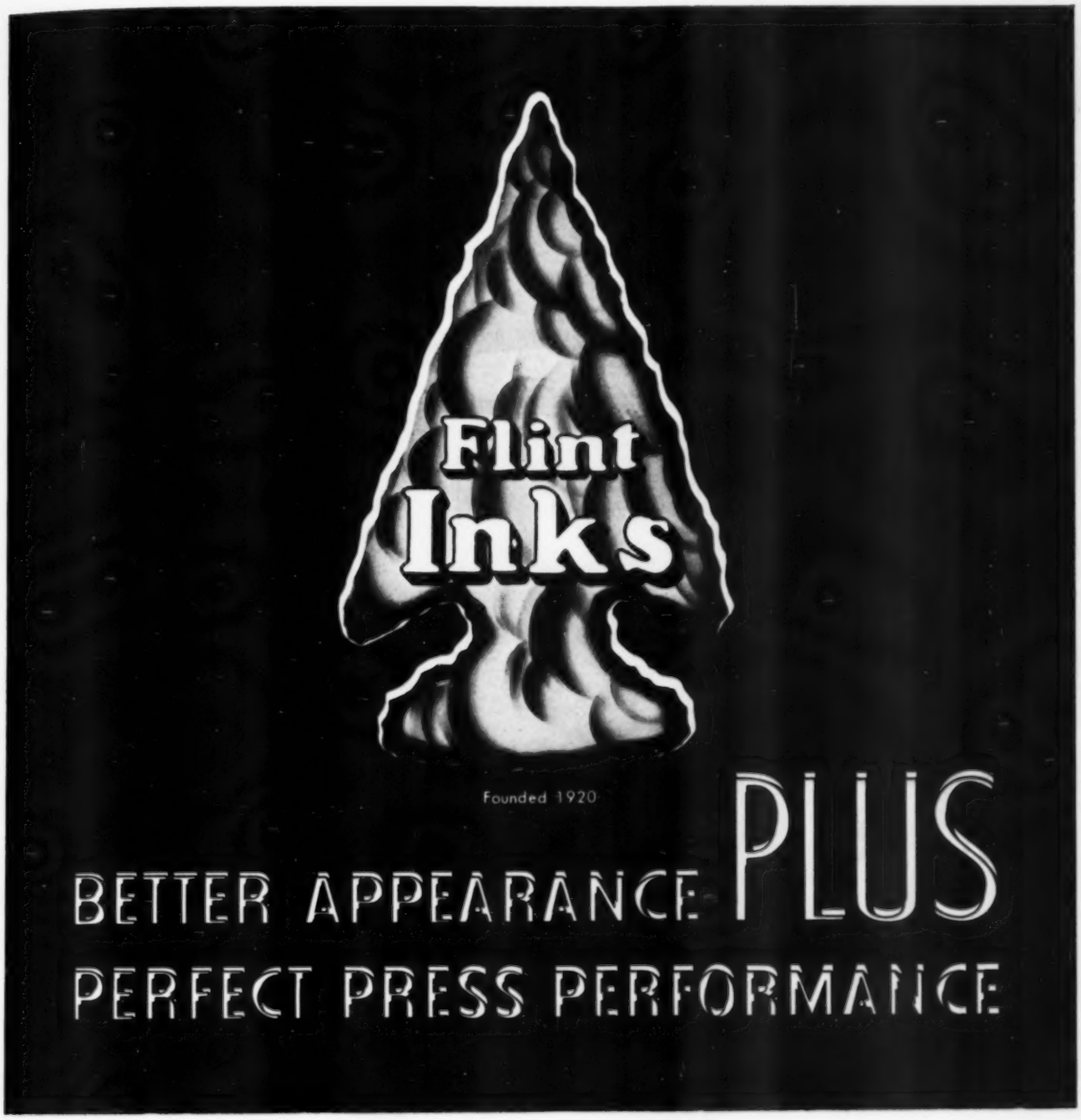

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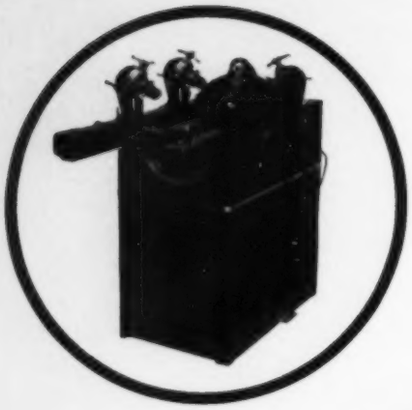

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June 1956

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PRINTING EQUIPMENT Engineer

Volume 86 Number 9

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Advanced Engineering . . .

In 1845, Richard March Hoe patented a method of attaching type forms to a revolving cylinder. It was a revolutionary new concept. As contrasted with flat bed printing, it made it possible to print 2,000 impressions in a single hour (one side). Quality was equal to flat bed printing. Subsequent engineering developments added more and more impression cylinders until in 1855, the monster on the opposite page evolved. Its ten impression cylinders made 20,000 impressions per hour — a performance which immediately gained it wide acceptance all over the U.S. and in Europe.

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Today, Hoe continues this unique tradition of progressive engineering for superior printing equipment. For example, the Hoe PRINTMASTER, which gives small newspapers a printing quality that is actually superior to that produced on any other press in the newspaper field *irrespective of size!*

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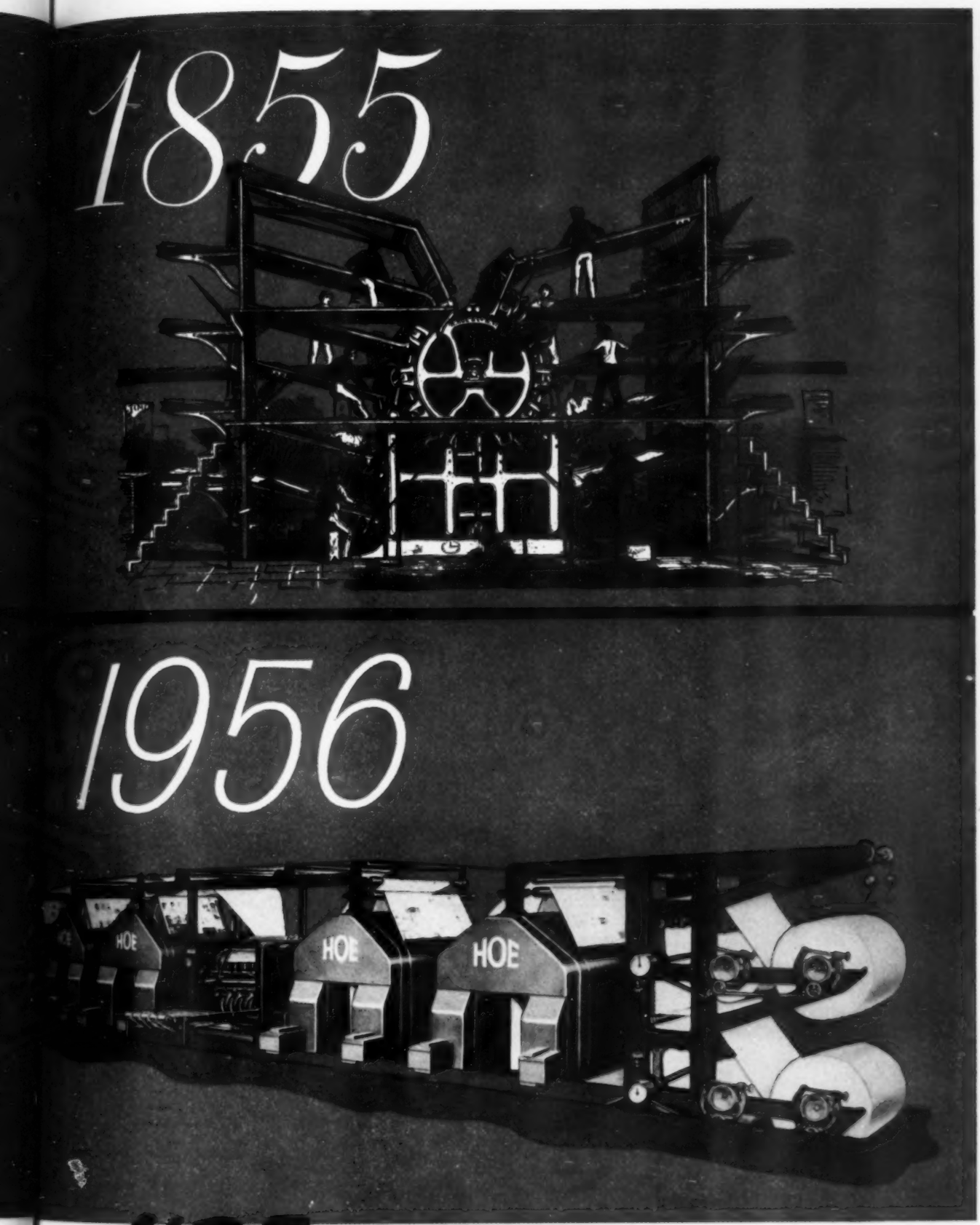

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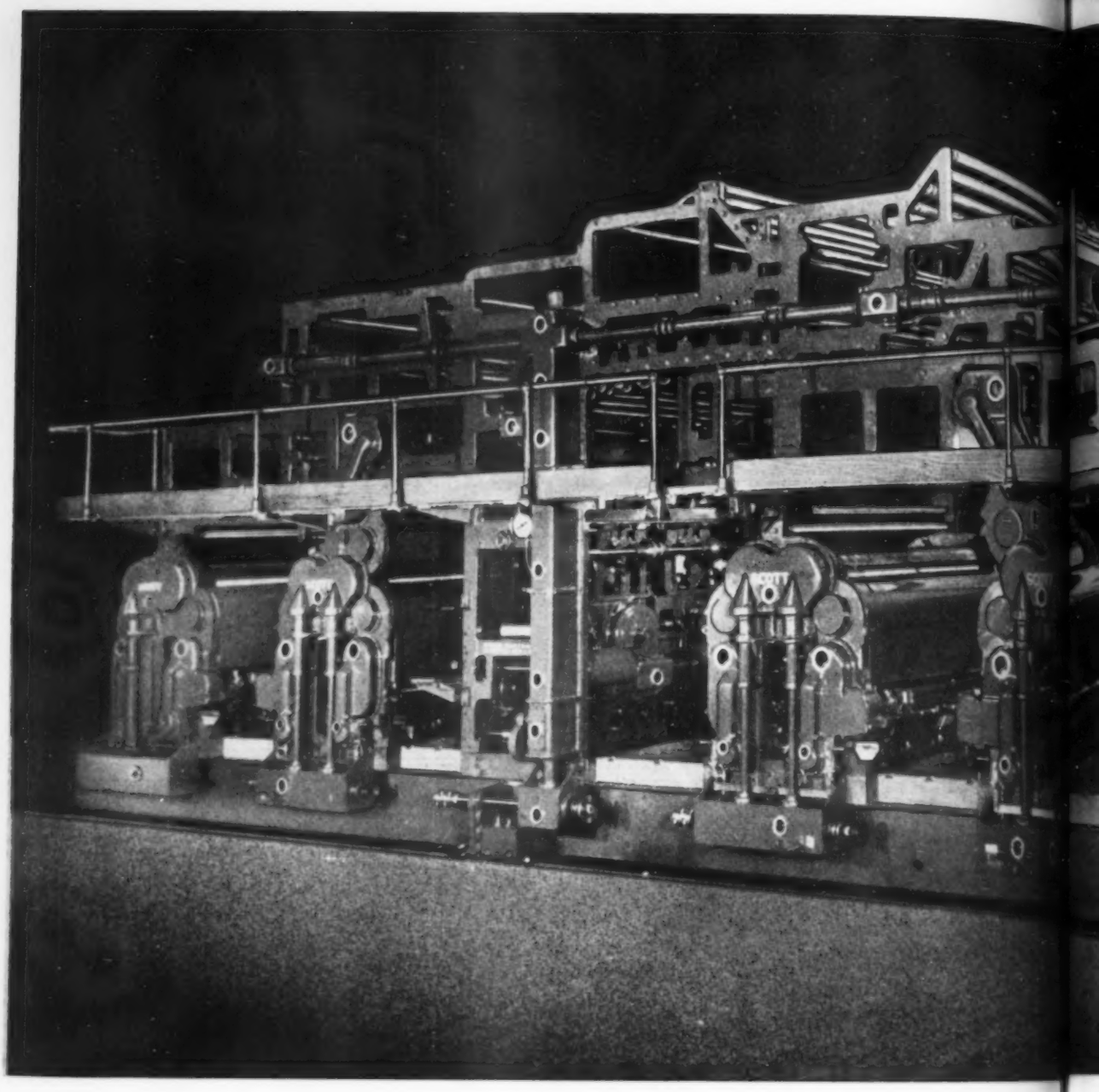

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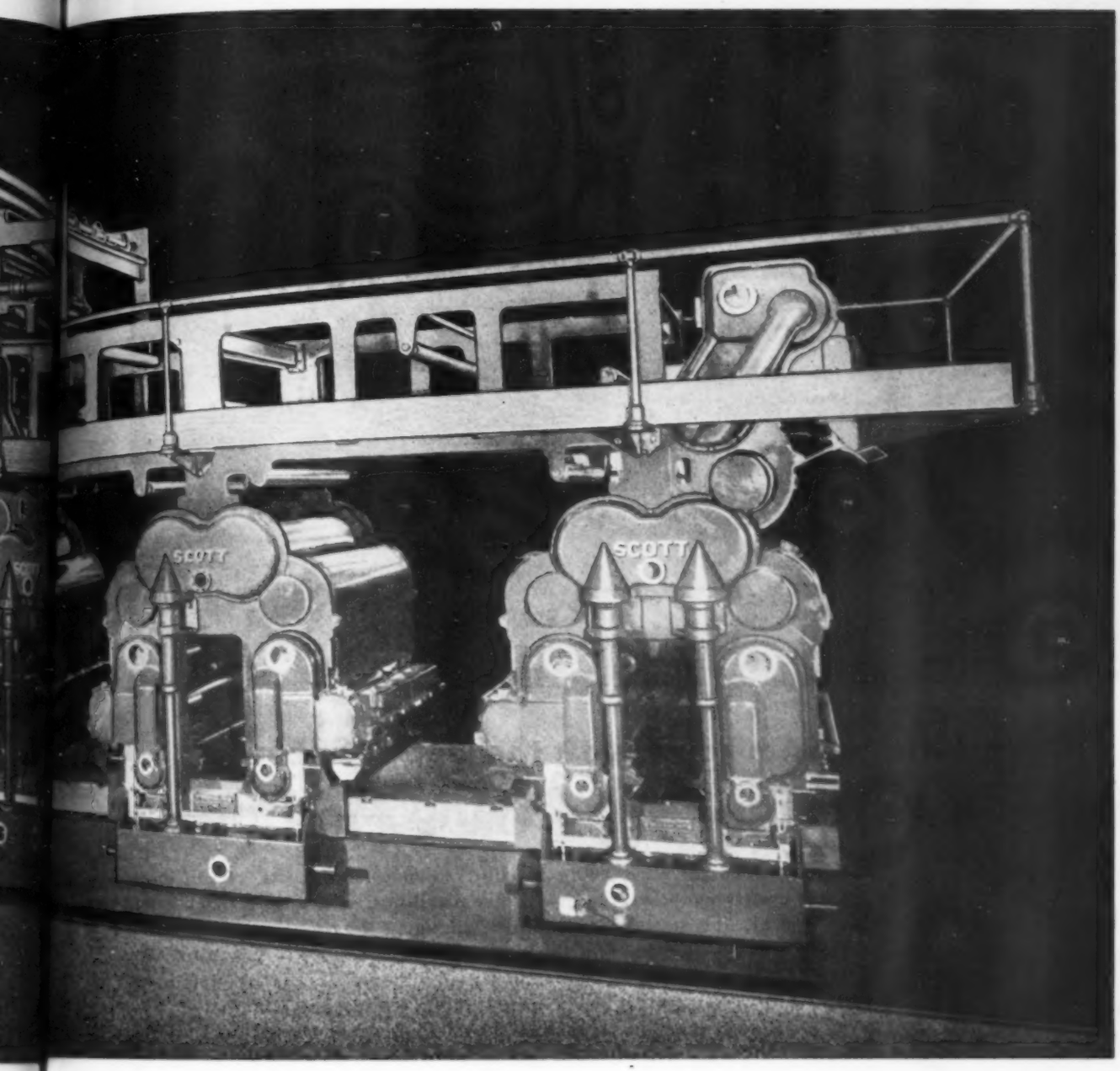

three single reverse drives, one double reverse drive, three color plate cylinders and eight built-in four page wide extra color fountains.

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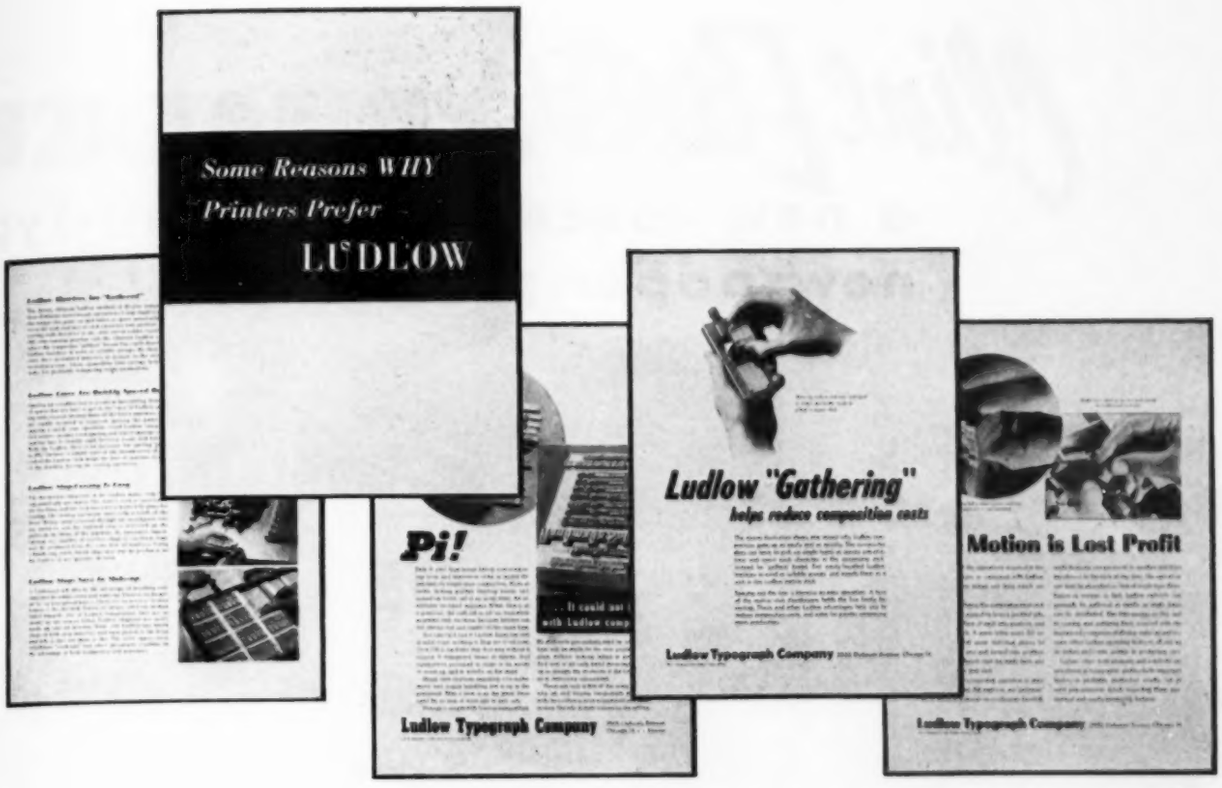

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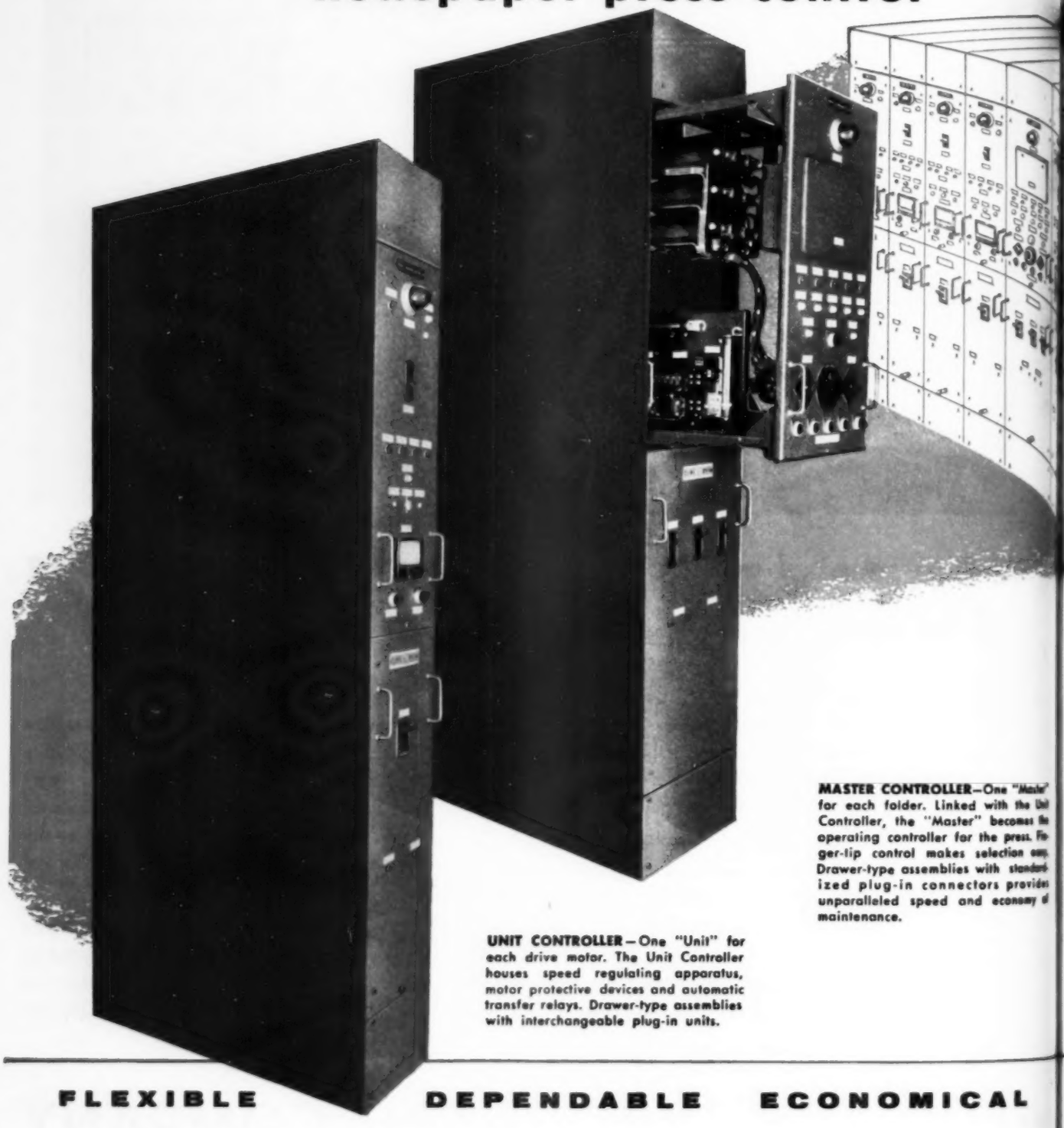
Cline Electric ANNOUNCES

a new concept in AC Unit-Type newspaper press control



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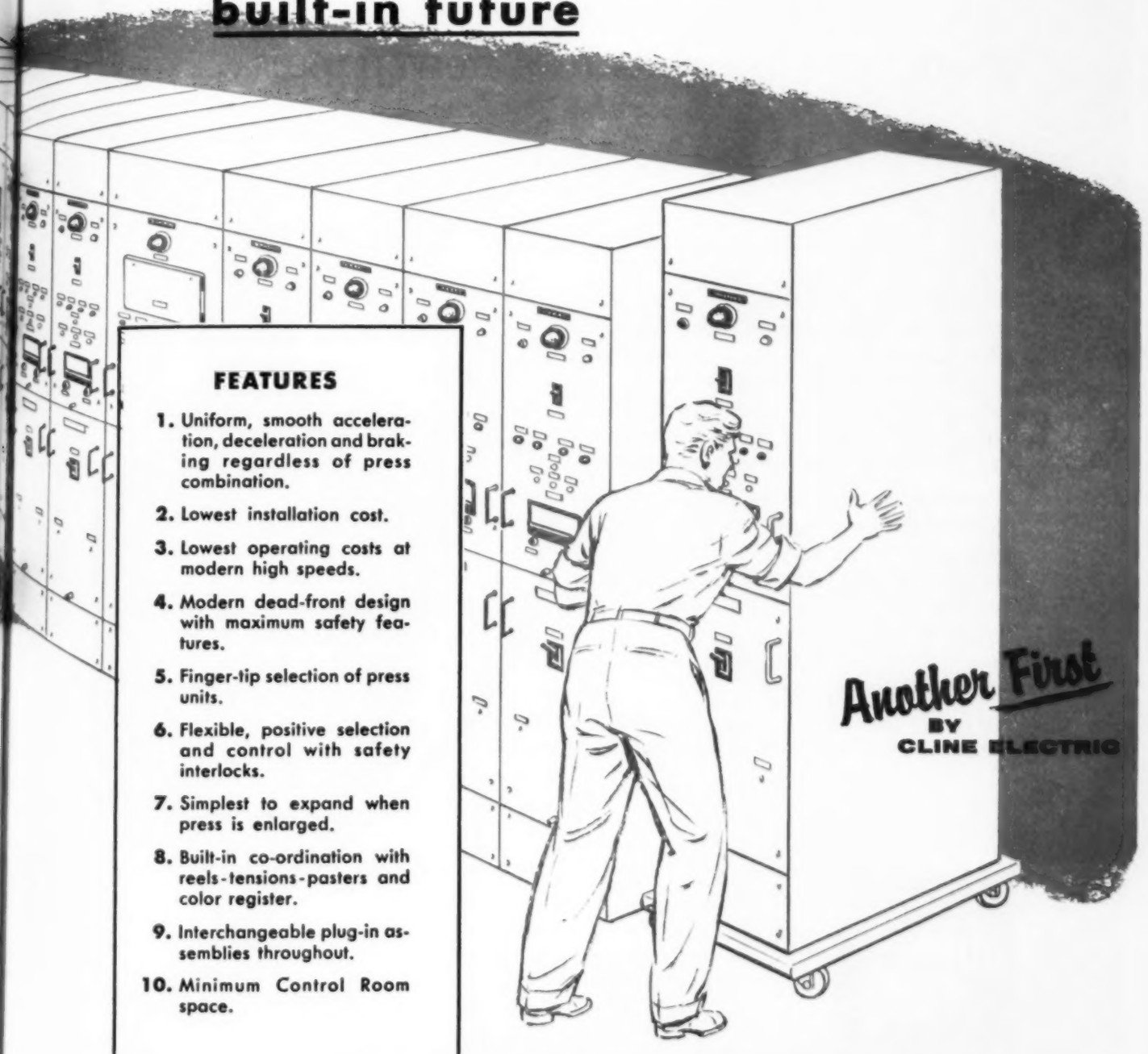

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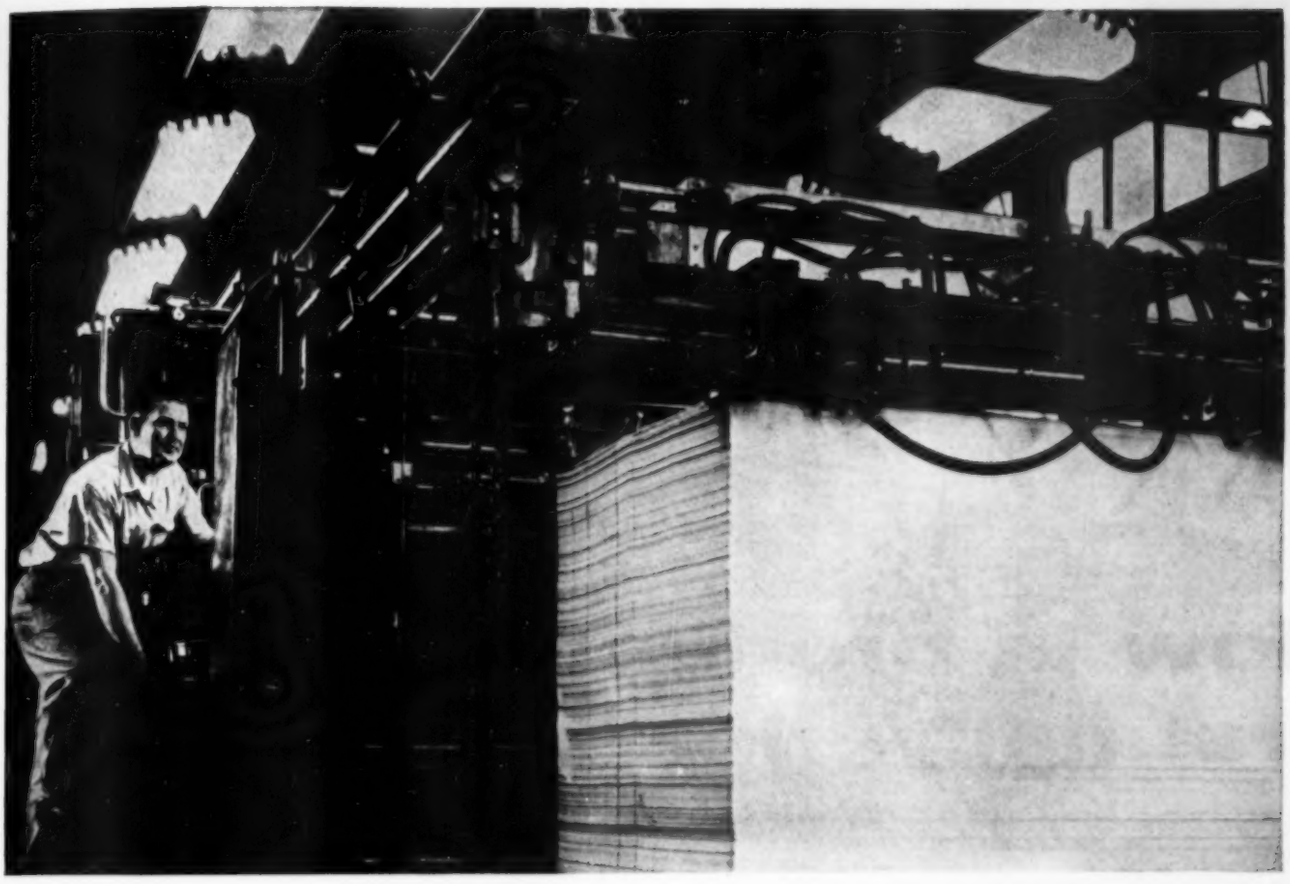

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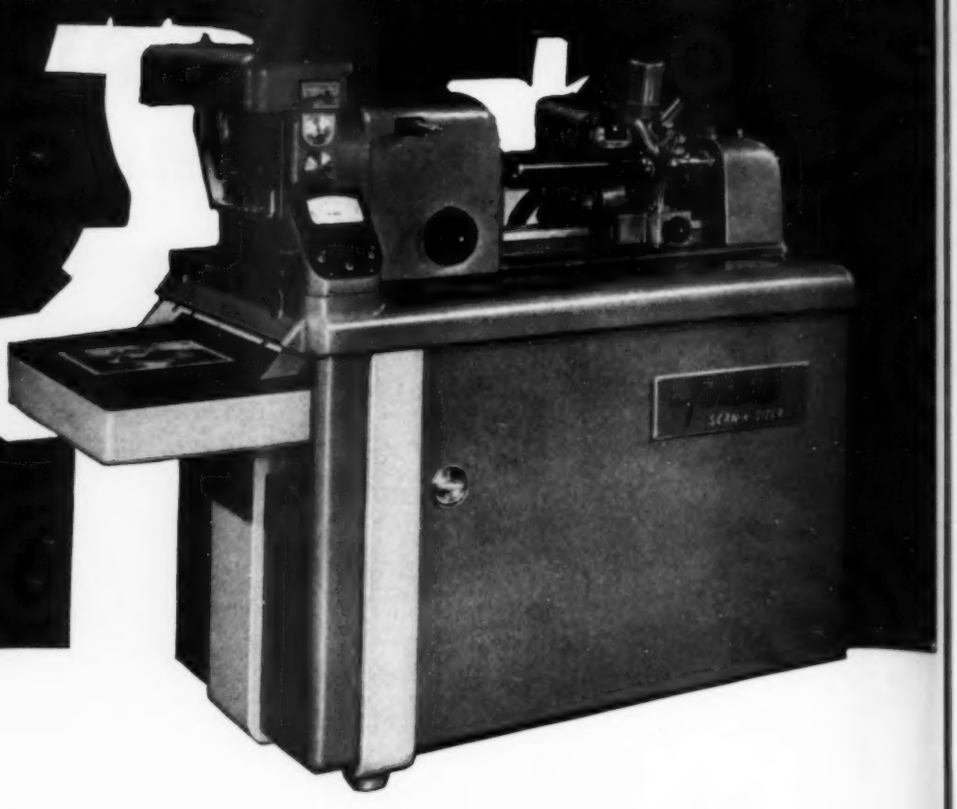

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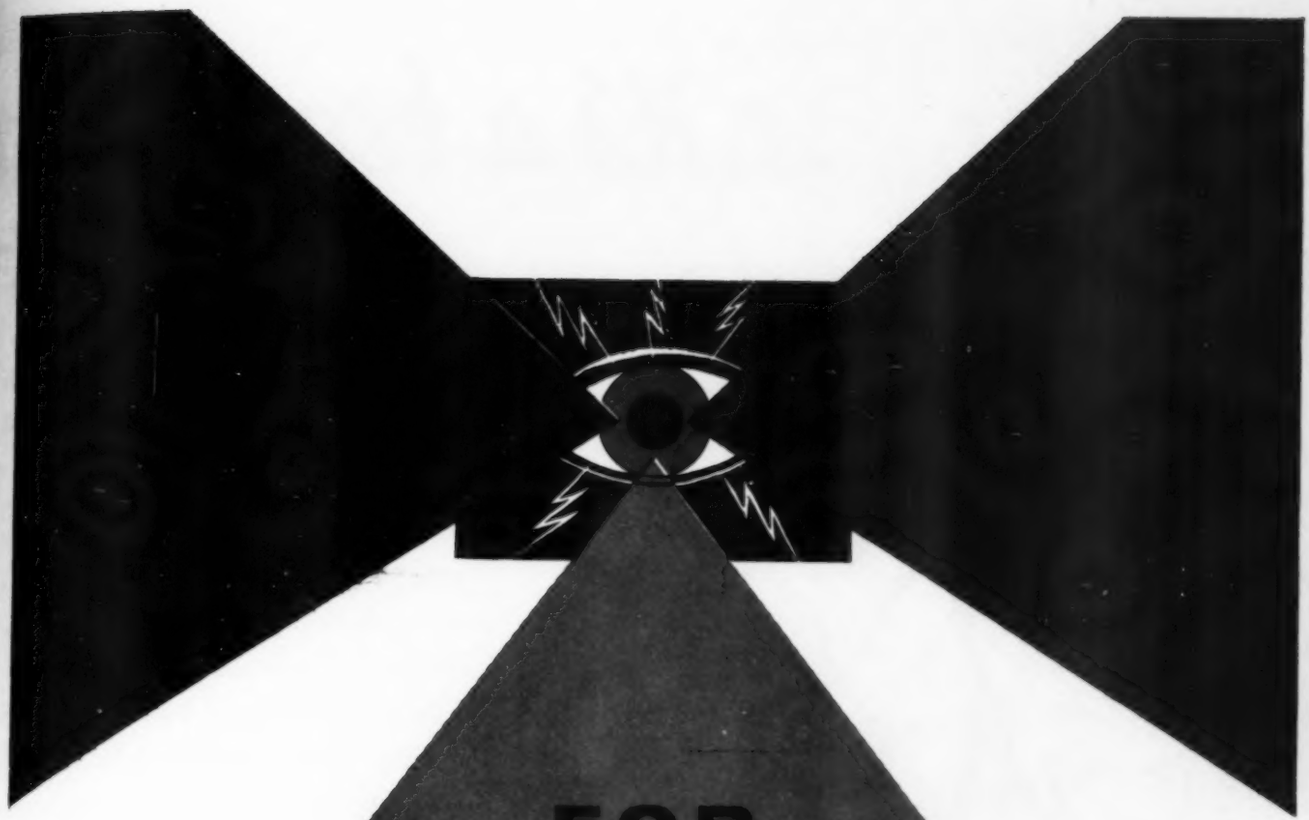

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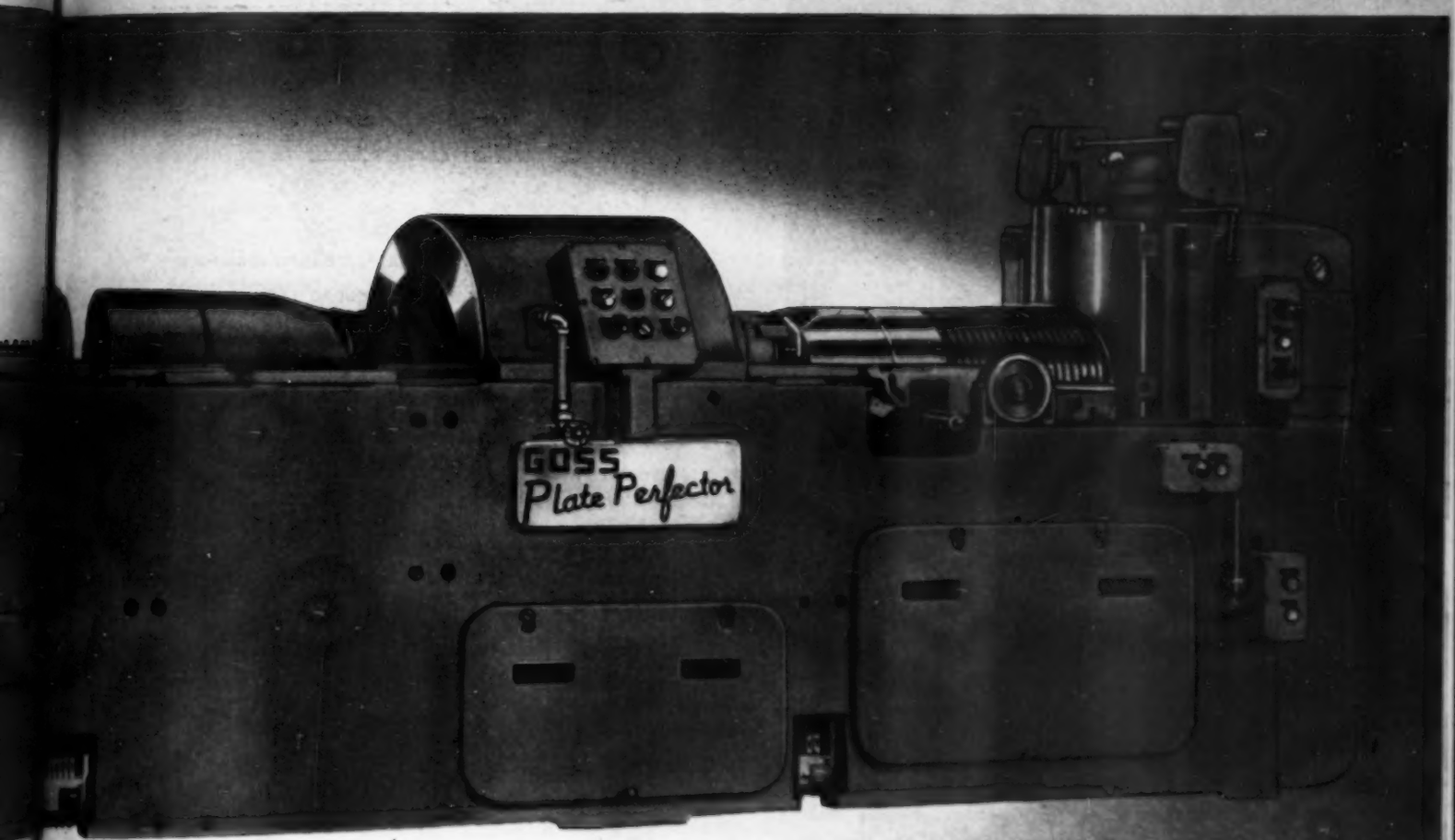

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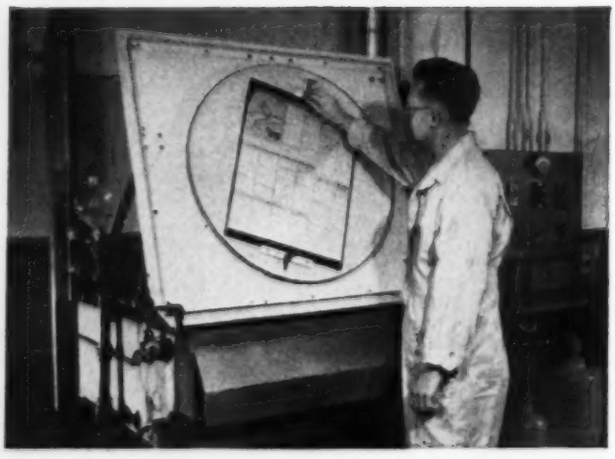

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At Eastern, one of our main jobs is to keep well stocked with hundreds of products you need to produce a well printed newspaper. Eastern products range from expendable, everyday necessities to major pieces of equipment for your composing room, stereotype department, press room and photoengraving department.

what about delivery?

Your orders to Eastern get immediate, personal attention from a staff of specialists with long experience in serving the needs of newspaper production departments. Delivery is on time!

SEND YOUR NEXT ORDER TO EASTERN.

ENS
EASTERN
FOR
ECONOMY

EASTERN
NEWSPAPER SUPPLY, INC.
96-03 NORTHERN BLVD., CORONA 68, NEW YORK

The delegate

with a ready pencil . . .

. . . who "sets things down" while others are trusting to leaky memories, is very likely to be an entrant in the Success Derby.

As such he is building a career on the foundation of collected impressions and information, placed where it can be called to life and studied at leisure.

Discussions, comments and remarks—formal and informal, are the raw material of his occupational structure. Among his notes, when he reviews them, there are likely to be a number of pleasant things, said and recorded, about the all-round goodness of Certified Mats.

CERTIFIED DRY MAT CORPORATION
555 Fifth Avenue Dept. M. New York 17, N. Y.

For dependable stereotyping
rely on Certified Mats

Certified
DRY MATS

what about paper in the automated office?

WESTON BOND PAPERS
A complete range of all rag and rag content bond papers featuring a brighter, whiter white and practical colors. Made for trouble-free performance on the press and in the office.

WESTON LEDGER PAPERS
Rugged strength and durability; uniform color, finish and bulk; excellent printing, ruling, writing and handling qualities . . . all available in a complete range of rag content grades, sizes, weights and colors.

WESTON MACHINE ACCOUNTING LEDGERS
Made especially for machine posting with extra strength and toughness and a special smear-proof finish. Wide choice of colors, sizes, weights.

WESTON INDEX BRISTOLS
Used for card indexes, stock records, accounting forms, punched cards. Tough, durable, with extra backbone to resist dog-earing. Easy-to-identify colors.

Will automation mean less "paperwork" in the office of the future? Will it eliminate much of the need for printed forms and letterheads? Will it mean the end of a substantial and profitable type of business now enjoyed by most printers?

All the evidence points the other way.

Many offices have already gone a long way toward mechanizing and integrating record keeping procedures. Far from diminishing paper requirements, these developments simply reflect the need for more efficient methods of processing the growing volume of information which is collected and disseminated on paper.

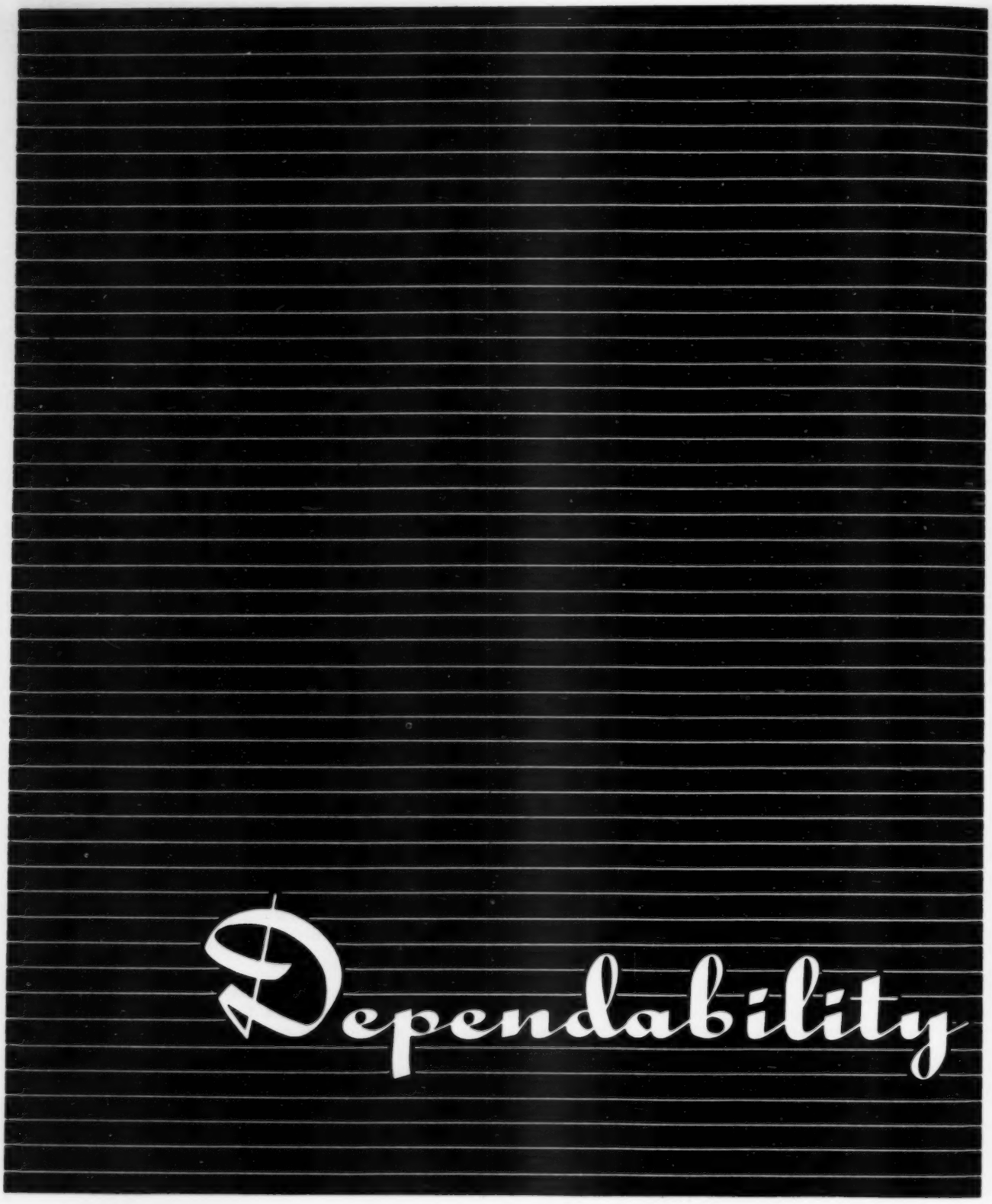
High speed, mechanized methods further emphasize the need for *better* paper . . . paper that will stand rapid handling; that can be punched or perforated without breaking down in the machines; that will take clean, crisp impressions at high speeds.

Printers who cater to the record keeping needs of business and industry will find Weston papers especially well adapted to the requirements of the automated office.

Makers of fine papers for business records since 1863

WESTON PAPERS · PROTECT YOUR RECORDS ·

BYRON WESTON COMPANY
DALTON, MASSACHUSETTS



HERRICK Inks

WILLIAM C. HERRICK INK CO.
Incorporated

EAST RUTHERFORD, N. J. JACKSONVILLE, FLA.

QUALITY NEWS, LETTERPRESS, AND OFFSET INKS

Here's how Curtis *simplified*

ROP COLOR works...

IN fashions, decorations, movies, magazines, in TV...*and now in newspapers* ...COLOR makes the difference in eye- and buy-appeal. People like color—want color—expect and demand it. That's why many forward-looking newspapers use Curtis *simplified* ROP Color to build prestige and boost circulation.

By converting full-color reproduction to the simplicity of *black and white methods*, the Curtis ROP color system eliminates the costly, time-wasting factors in ordinary ROP color processing. The entire operation is reduced from *hours* to *minutes!* It's the *most economical* ROP color system you can use. Can be used with negatives produced by either the Curtis direct color camera or from regular color transparencies.

FREE... comprehensive color booklet "ROP Color Simplified," is yours for the asking. Gives detailed facts on Curtis color equipment and the Curtis color process—tells how you can use Curtis color to minimize production costs and boost readership and profits. For your copy write *today* to Dr. Thomas S. Curtis, Curtis Laboratories, Inc., 2718 Griffith Park Boulevard, Los Angeles 27, California. There's absolutely *no obligation.*

...to insure striking quality

to save time and money

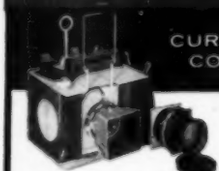
to stimulate circulation!

He's examining the [illegible] of ROP color!

Heart of the system is the Curtis Color Analyst

The Curtis Color Analyst is an optical device using filters and mirrors to produce a single full-color image from three black and white separation prints or proofs. The purpose is to determine if they are correct for color printing. There's no mathematical calculation....just the manual adjustment of a few knobs to obtain a color image that shows clearly the need for and extent of any color correction required. It achieves quickly and easily high fidelity to color and tone.

Vital elements in the system also are:



CURTIS ONE-SHOT COLOR CAMERA

Uses ordinary black and white panchromatic film—*simultaneously* makes three balanced color separation negatives with a single exposure.

CURTIS COLOR-PRINTER

Produces the finest possible color separation negatives from color transparencies . . . from 35mm to 2¼" x 3¼". Complete with filters and fully corrected lenses. It is not required when Curtis one-shot Color Camera is used.

CURTIS LABORATORIES, Inc.
2718 Griffith Park Boulevard, Los Angeles 27, California

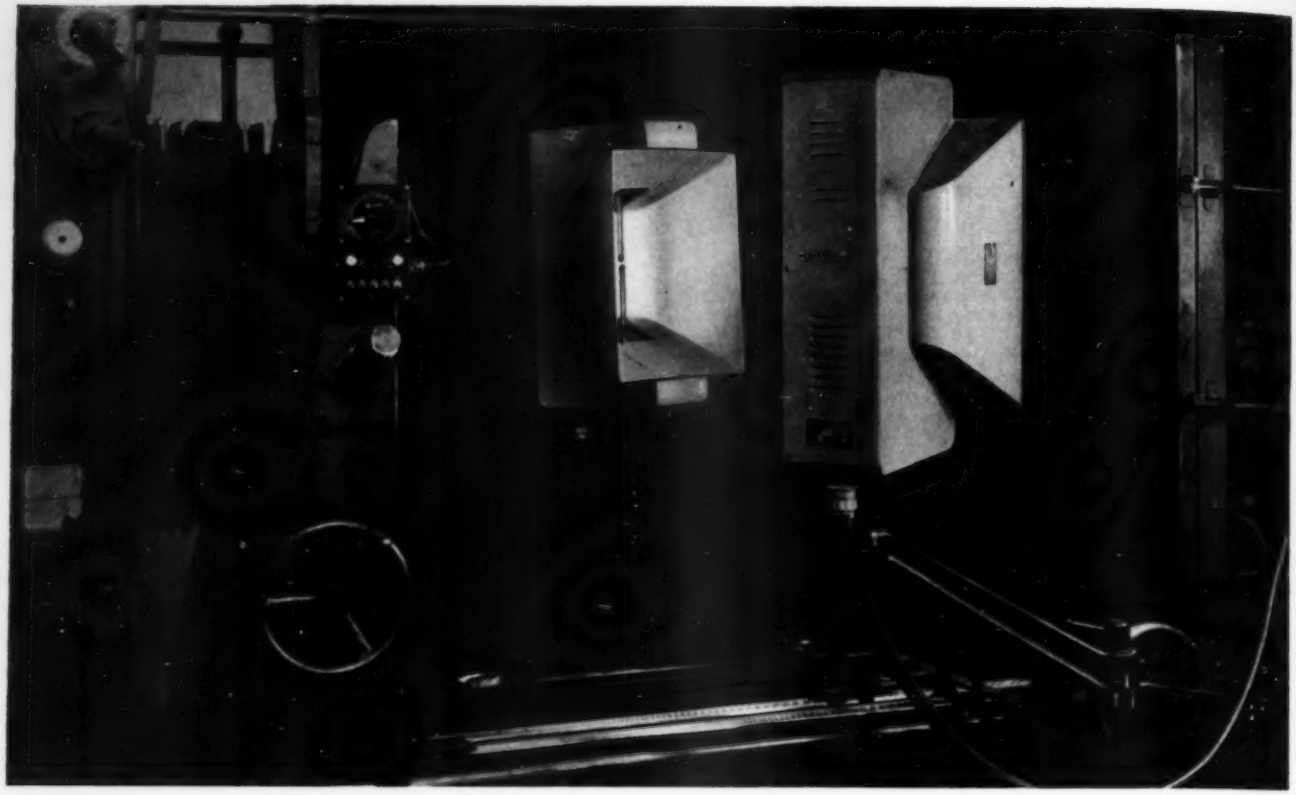
Please send free color booklet "ROP Color Simplified."

Name_____

Newspaper_____

Street_____

City_____ Zone___ State_____



You can depend on Macbeth Arc Lamps to meet the requirements of *any* type of operation!

What are *your* requirements? High-speed production? Work of highest quality? Macbeth Arc Lamps will give you the *right* answer to your problems.

Yes, Macbeth Arc Lamps help you meet the most exacting demands of time and quality . . . help you cut costs and protect your profits. You get the advantages of greatly reduced exposure time . . . actual savings on carbon . . . trouble-free operation that eliminates many maintenance problems that cut into both production and profits.

And remember! There's a Macbeth camera or printing lamp with the proper mounting for any size or type of equipment . . . a lamp-and-mounting combination to meet *your* specific needs. See your graphic arts supplier, or mail the coupon *today*.

Macbeth
ARC LAMP COMPANY
141 BERKLEY STREET
PHILADELPHIA 44, PA.

Macbeth Arc Lamp Company
141 Berkley Street
Philadelphia 44, Pa.

I want to talk to your representative about a Macbeth Arc Lamp and mounting that will fit my specific needs.

Name .....

Company .....

Address .....

City and Zone ..... State .....

"NEW ENGLAND" The Oldest Name in Press Blankets

NEW ENGLAND NEWSPAPER SUPPLY CO.

Consolidated with

NEW ENGLAND FIBRE BLANKET COMPANY

164 FREMONT STREET • WORCESTER, MASSACHUSETTS

GARDENER G. DeMALLIE, *General Manager*

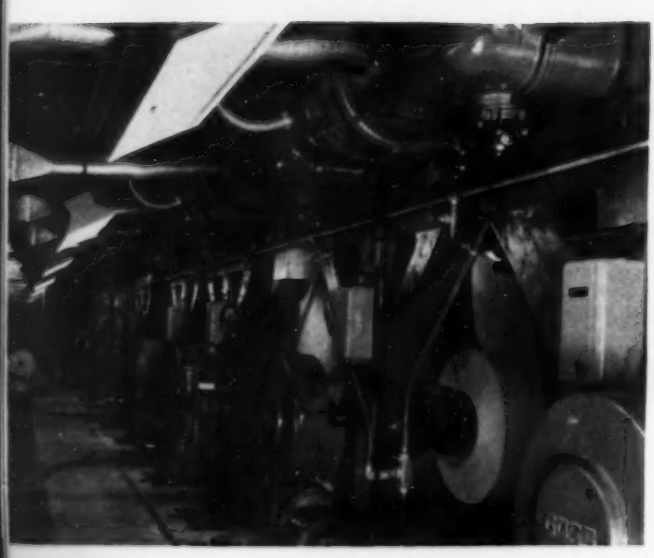
NEW YORK OFFICE:
230 West 41st Street,
New York City
TONY CRONIN

CHICAGO OFFICE:
1950 Daily News Building
Chicago, Illinois
SCOTTY CAMPBELL

SOUTHWEST OFFICE:
1225 South Trenton
Tulsa, Oklahoma
EDDIE P. GAUGHAN

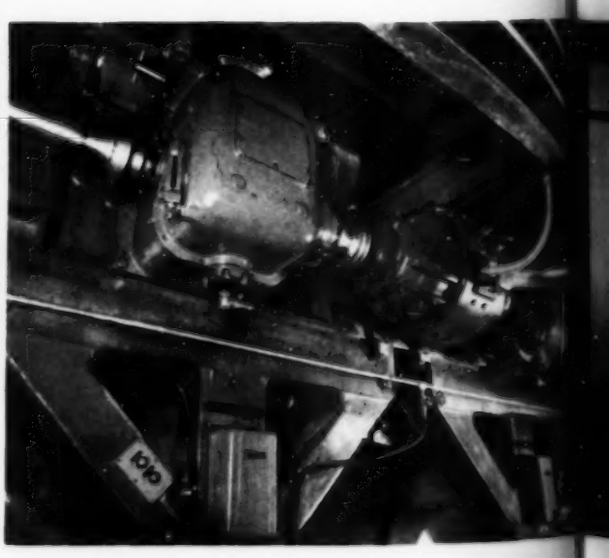
WEST COAST OFFICE:
318 DeYoung Building
San Francisco, California
ED SPARKS

ENGINEERING
REPORTS:



FLEXIBILITY to meet varying press schedules is provided by 9 individual G-E d-c drive motors handling all power needs for each press unit.

STANDBY CAPACITY of individual-motor system enables drive to carry whole load at reduced speed, with only 2/3 of motors energized.



PRESSROOM—heart of new Journal Star plant—features modern newspaper equipment throughout, including new Goss "Headliner" press with G-E electronic press drive.

Peoria Journal Star doubles capacity with new Goss press and General Electric drive

G-E direct-current electronic press drive system in new $1,000,000 plant provides fast, continuous operation—practically eliminates web breaks

Operating with limited plant facilities for several years, the Peoria, Ill. Journal Star has gained a 3-way growth potential. Improved news service, greater advertising revenues, and increased circulation are now within its reach. These benefits stem directly from installation of a new Goss "Headliner" press powered and controlled by a General Electric d-c electronic press drive system. The new press not only extends the Journal Star's maximum speed to 52,500 papers per hour, but also practically doubles its press-run capacity from 36 to 64 pages, including 12 in color or 4 in multicolor.

Since start-up, the G-E system's performance has been praised by pressman and management alike. "Interruptions in press runs have all but been eliminated," says C. L. Dancey, Mechanical Supt., "and we can put out a greater number of larger papers on short-term time schedules."

Chief features of the G-E system include: Wide production speed range from nine individual 40-hp d-c motors, coaxially mounted to handle all power needs of eight units and one folder; ***continuous press operation*** through closer speed control that keeps acceleration smooth and steady to prevent costly web breaks; ***easily installed, factory assembled cubicles*** that combine power and control circuits; ***non-stop reel changeovers*** permitted by an electronically synchronized "flying paster" drive; ***lower maintenance costs*** by elimination of many wearing parts.

You, too, will find that G.E.'s direct-current electronic press drive raises pressroom efficiency, cuts production costs. For details, contact your nearest G-E Apparatus Sales Office or write for Bulletin GEA-5523 to General Electric Co., Section 653-43, Schenectady 5, New York.

Engineered Electrical Systems for Newspaper Plants

GENERAL ELECTRIC

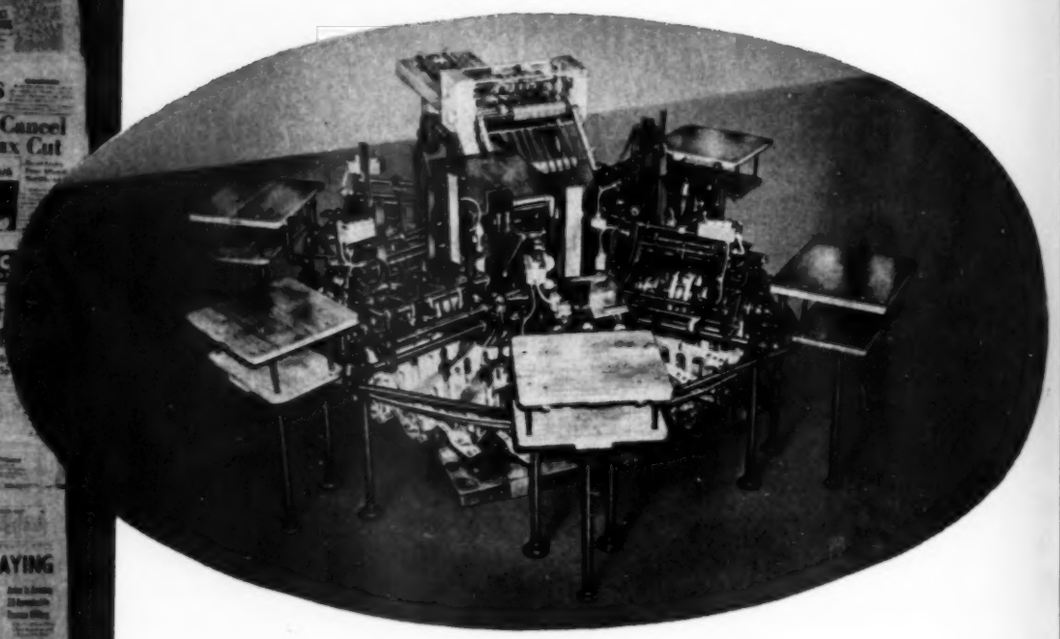
PRESS-DRIVE CONTROL cubicles house both rectifier and control equipment, are conveniently located on balcony.

PRECISION CONTROL for reel drive in "flying paster" system is provided by 8 G-E electronic amplidynes*.

*The Amplidyne—rotating amplifier developed by the General Electric Company.

THE INDIANAPOLIS STAR
THE SPOKESMAN-REVIEW
Courier-Post EXPRESS
Ike Seeks to Cancel Scheduled Tax Cut
The Dallas Times Herald
The Oregonian
The Evening Star
PRESIDENT SEIZED IN PANAMA SLAYING
BABIES DIE OF EXPOSURE IN PUENTE
Los Angeles Times
L.A. ACCIDENTS MOUNT: JAIL 40 DRUNK DRIVERS
Happy New Year to All Our Readers
The Vancouver Sun
Dulles Says Danger Of War Lessening
The Detroit News 5
SHEPPARD READY TO REST HIS CASE
THE MILWAUKEE JOURNAL
Officer Shoots Store Burglar on Shorewood Athletic Field
THE TELEGRAM

...more inserts per Dollar



The new four- or five-hopper 24P Sheridan Stuffing Machine offers you the flexibility required to meet all insert conditions.

Advanced engineering gives faster, neater and more economical delivery in various combinations, into jacket or wrap-around sections, at operating speeds up to 12,000 per hour. There are no hit or miss insertions—you get perfect count for every edition. Compact design of the 24P saves considerable floor space.

No matter how tough your stuffing problem may be, you can depend on Sheridan to solve it. A representative will be pleased to explain how the 24P Sheridan Stuffing Machine can help you get out a better looking edition.

For newspapers having more than five sections the Sheridan 48P is available, and for those with two or three sections, inquire about the newest Sheridan 12P.

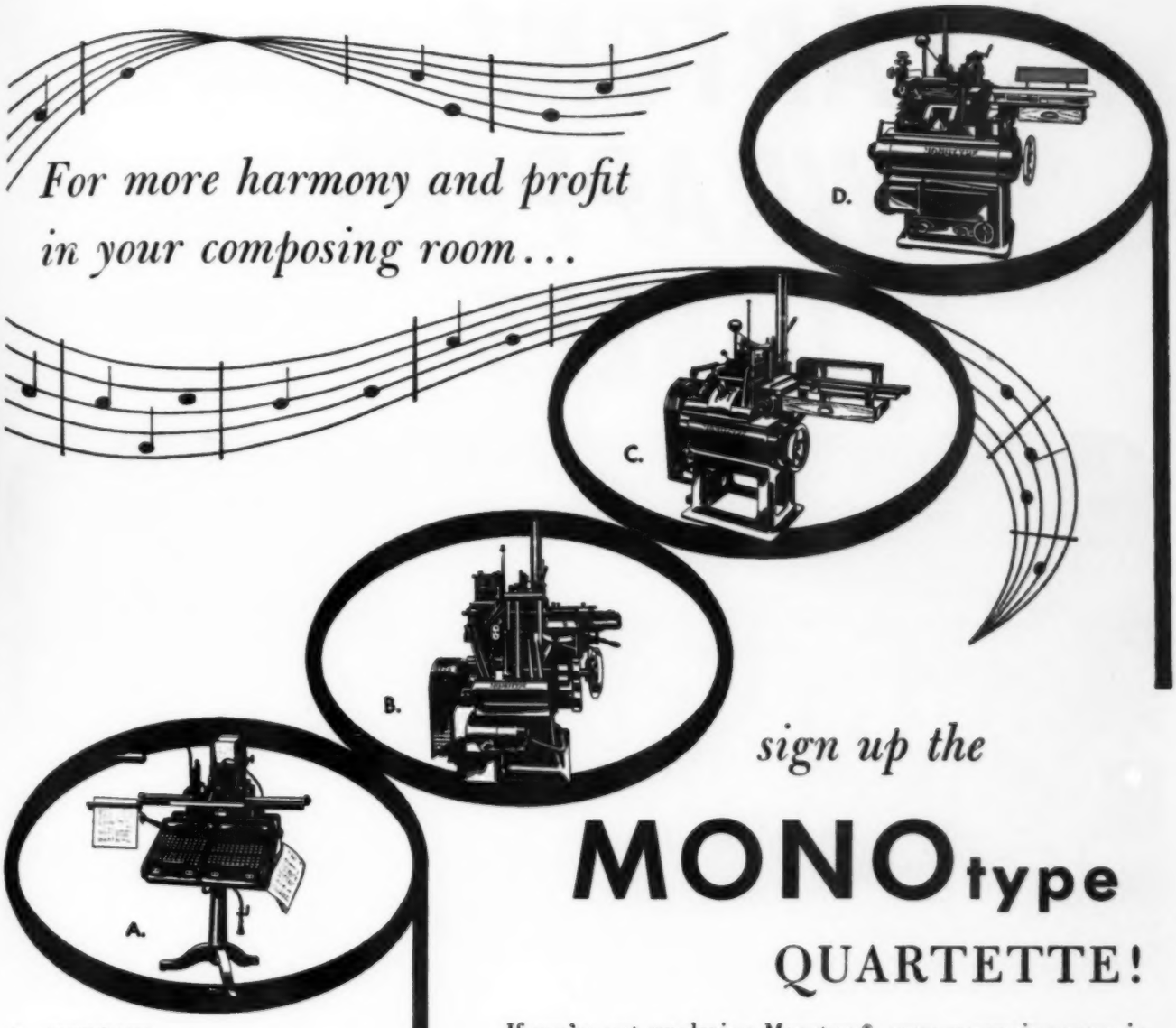
Write today for our illustrated booklet, without obligation.

SINCE 1835

T.W.&C.B. SHERIDAN CO.

135 Lafayette St., New York 13, N. Y.

600 W. Jackson Blvd., Chicago 6, Ill.
183 Essex St., Boston 11, Mass.
24701 Crenshaw Blvd., Torrance, Calif.
52 54 High Holborn, London, W.C. 1, England

For more harmony and profit in your composing room...

sign up the

MONOtype QUARTETTE!

A. KEYBOARD

The Keyboard and Composition Caster are the basis of the Monotype System. The Keyboard sets straight matter, tabular matter, foreign-language composition and technical material—with equal ease—in measures up to 60 picas wide, in all sizes from 4 to 18 point.

B. COMPOSITION CASTER

Operates in conjunction with keyboard, casting each character individually in perfectly spaced and justified lines. Between specific jobs, the caster can be kept busy turning out type and spacing material needed by the hand compositors.

C. MATERIAL MAKER

The only strip-material machine which produces continuous strip decorative borders, news dashes and logotypes, as well as straight-line rules, column rules, leads, slugs and base materials. Hundreds of different rules and decorative border designs available.

D. GIANT CASTER

Makes type, quads and spaces in all sizes from 14 to 72 point; dust height base furniture for mounting cuts and spacing, in all sizes from 14 to 72 point, and of any standard or special height, and of any desired length.

If you're not employing Monotype®, your composing room is operating at a lot less than its full production and profit capacity.

Because—the Monotype System of machine typesetting is *unequalled* for speed, economy, accuracy, ease of corrections, range and fit of type faces, and quality of printed results. It is the *only* system that is not restricted by the printing process involved, the paper and ink specifications, or length of press run. *From copy to press Monotype costs less.*

At left the four basic Monotype machines are described. You may not need them all. Let us help you determine which units you *do* need, to improve your composing room operation.

This advertisement is set in 20th Century, Bulmer & Gothic 204 Series.

MONO type

LANSTON MONOTYPE MACHINE COMPANY

24th & Locust Sts., Philadelphia 3, Pa.

BRANCH OFFICES

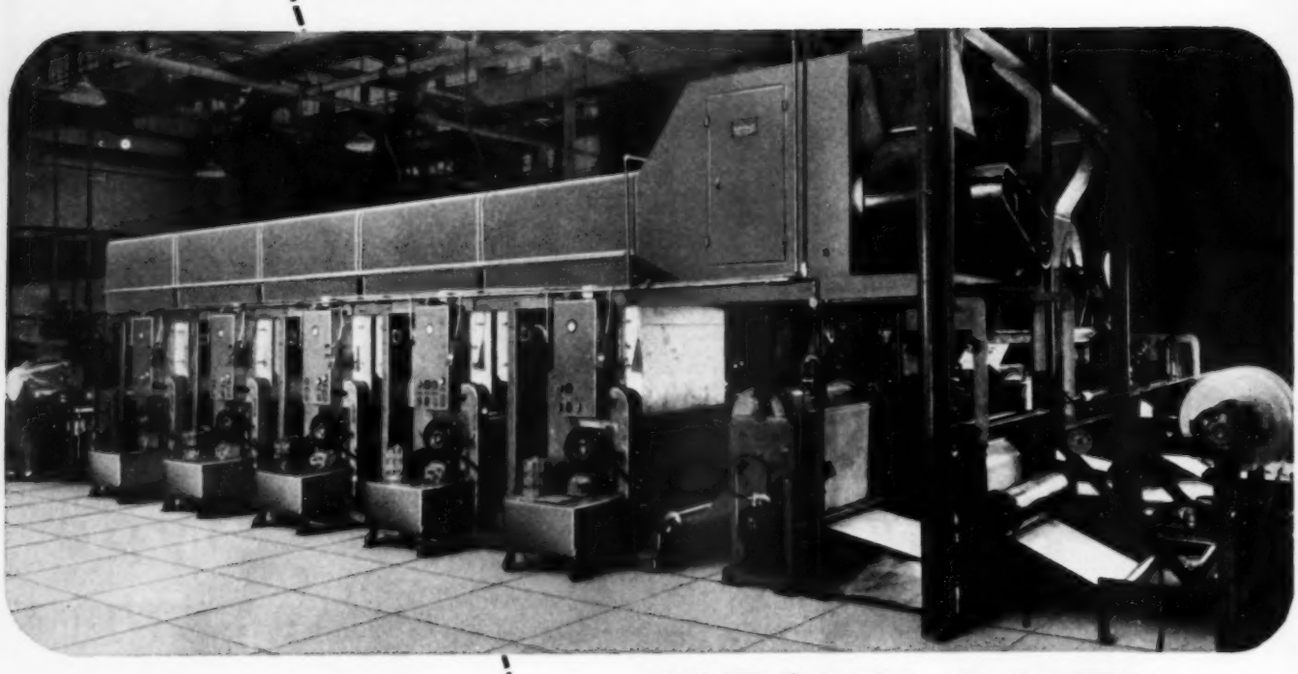
ATLANTA—57 Forsythe Street
BOSTON—80 Federal Street
CHICAGO—216 West Jackson Boulevard
DENVER—A. E. Heinsohn Printing Machinery & Supplies
NEW YORK—441 Lexington Avenue
SAN FRANCISCO—115 New Montgomery Street
CANADA—Monotype Company of Canada, Ltd.
77 York Street, Toronto 1, Ontario
BRAZIL—Companhia Lanston Do Brazil, S. A. Rio de Janeiro

LANSTON MONOTYPE MACHINE COMPANY
24th & LOCUST STS., PHILA. 3, PA.

Yes, I would like to hear more about how I can increase my profits with the Monotype System. ☐ User ☐ Non-User

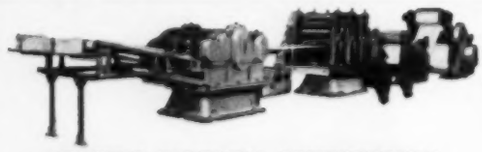
NAME.....
COMPANY.....
ADDRESS.....
CITY.....ZONE.....STATE.....

CARTONS WRAPPERS LABELS



require the **HEAVY DUTY**

Staude "1000" ROTOGRAVURE



STAUDE ROTARY LETTERPRESS

Best known for making paper milk bottles at a production rate of over a quarter million a day. Printing cylinder circumference; maximum 32"; minimum 16"; 26" actual printing width.

STAUDE BUTT SPLICER

makes a perfect splice without stopping the press.

Consider such features as integral assembly for fast changeover . . . 1,000 ft. per minute . . . 360° running register . . . exclusive doctor blade mounting for easy accessibility. Printing width 26" to 44"; circumference 23" minimum; 46" maximum. A letter or phone call will bring complete information on this versatile inline equipment.

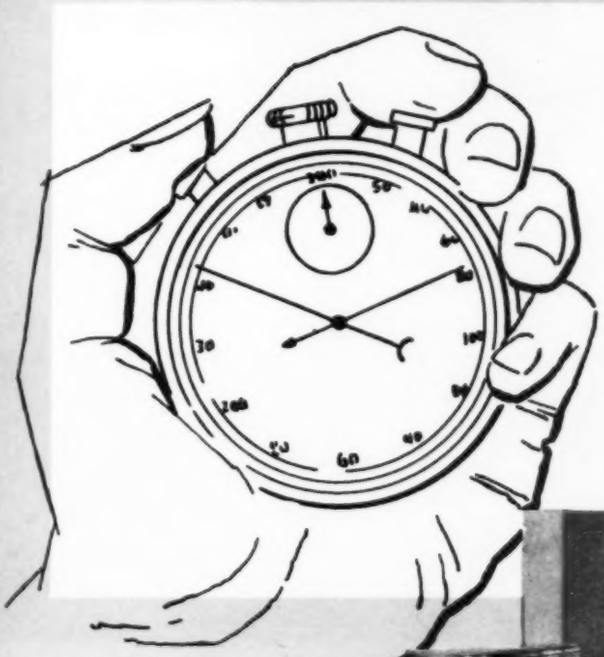
Eastern Office: 35 Beechwood Ave., Mt. Vernon, N. Y.—Phone: Mt. Vernon 4-3753

Chicago Office: 82 W. Washington Blvd.—Phone: ANdover 3-4980

E. G. Staude MFG. COMPANY, INC.

Rotogravure Press Division: SPRINGFIELD, VERMONT

Reduce costs...and



Speed up Delivery!

Machines are sold outright — never leased.

designed and built by the Toronto Star Limited Research-Engineering Department.

the WALLASTAR BUNDLER

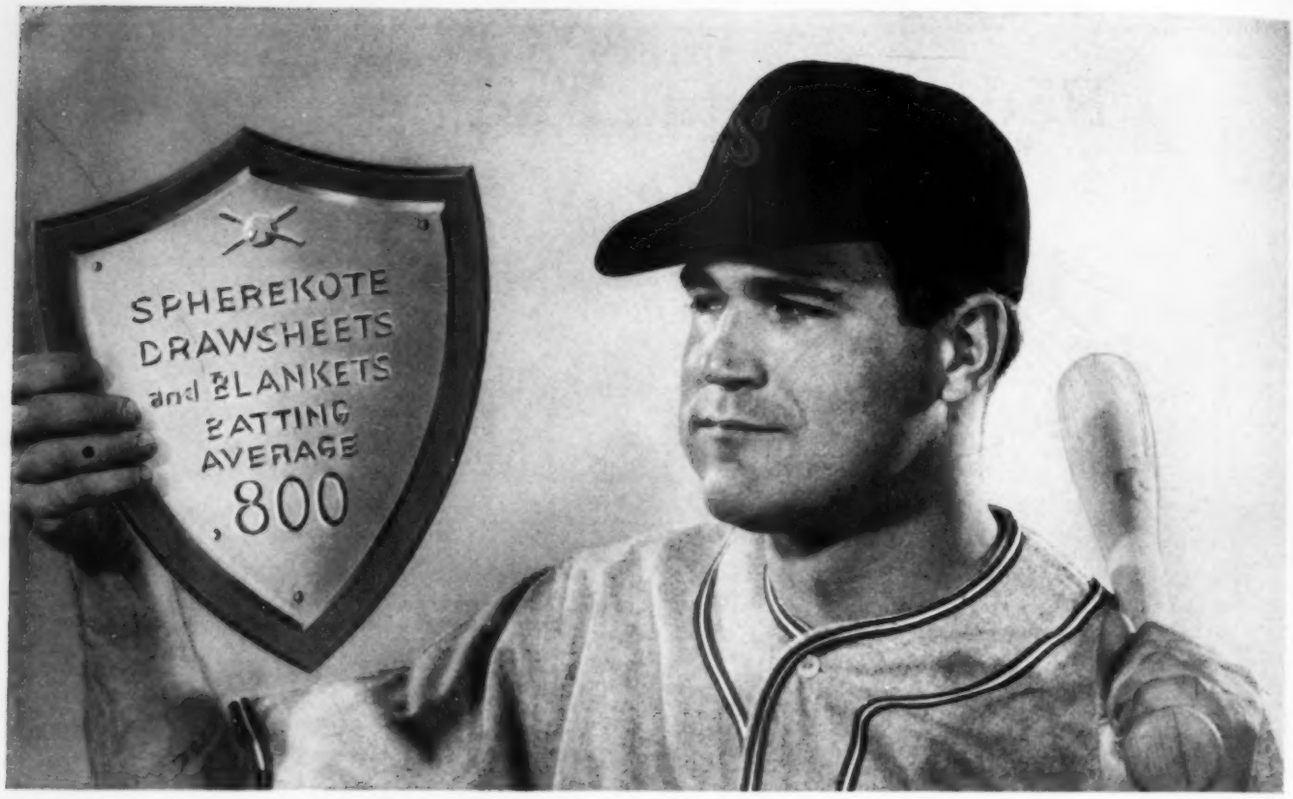
The Wallastar Automatic Bundler and Starwrapper provide the greatest advance in mailroom mechanization in years. Together, they form an in-line system that automatically aligns, wraps and bundles papers for delivery to the shipping dock. Wherever installed they insure faster delivery and lower costs.

No matter how your mailroom is now set up, or what may be your future needs, there is a Cline mailroom system to meet your requirements!

If you would like to see Wallastars and Starwrappers in operation, write for complete information.

Cline Electric

CLINE ELECTRIC MANUFACTURING COMPANY
3405 West 47th Street, Chicago 32, Illinois
Los Angeles 17, California • New York 17, New York



League Leader

8 of top 10 R.O.P. color newspapers rely on SPHEREKOTE BRAND Drawsheets and Blankets

SPHEREKOTE Drawsheets and Blankets top the league among the nation's leading R.O.P. color newspapers for a very basic reason . . . they result in finer quality and sharper, cleaner reproduction *at substantial savings in time and money!*

The base stock of SPHEREKOTE Drawsheets is made of tough rubber, absolutely uniform in thickness. It has a built-in "bounce" that absorbs the shock of printing and holds its shape *even on multi-million-impression runs.*

Coating this rugged rubber base is the famous *secret surface* of SPHEREKOTE Drawsheets—formed of millions of tiny, hard *glass* beads. This marble-like, resilient surface insures a sharp, clean impression with a minimum of ink. Because the surface has no affinity for ink, SPHEREKOTE Drawsheets and Blankets prevent first impression offset, fill-up and ink mottle. For a FREE SPHEREKOTE demonstration, or further information, write: Minnesota Mining and Manufacturing Co., Dept. FM-66, St. Paul 6, Minn.

Here's the SPHEREKOTE Line-up

RANK	NEWSPAPER	R.O.P. COLOR LINEAGE
1.	Milwaukee Journal	2,178,961
2.	Los Angeles Times	1,426,405
3.	Chicago Tribune	1,347,034
4.	Nashville Tennessean	1,318,518
5.	New Orleans Times-Picayune & States	1,254,060
6.	St. Louis Post-Dispatch	1,226,295
7.	Dallas News	1,198,694
8.	The Seattle Times	1,141,543
9.	Atlanta Journal & Constitution	1,113,602
10.	Denver Post	1,099,787

(Source—Media Records, 1955 Totals)

REG. U.S. PAT. OFF.

SPHEREKOTE BRAND

BLANKETS
DRAWSHEETS

PRODUCT OF 3M RESEARCH

Made by Minnesota Mining and Manufacturing Co., St. Paul 6, Minnesota.
General Export: 99 Park Avenue, New York 16, N.Y. In Canada: P.O. Box 757, London, Ontario

Where additional press units were available, every user of HURLETRON Automatic ROP Color Register control has

RE-ORDERED!

HURLETRON

This overwhelming vote of confidence on the part of Hurletron users is no surprise. It is simply further evidence that Hurletron performance has substantiated every claim that has been made for accuracy and precision . . . for dependability under all operating conditions . . . and for maximum efficiency and economy.

So . . . when you are ready to consider the purchase of color register controls, it's a good idea to keep these facts in mind:

1 **Hurletron is the only automatic color register control now in use on newspaper presses in the United States.**

2 **Hurletron is the only automatic color register control specifically designed for ROP color.**

3 **Hurletron is the most economical to install, operate and maintain.**

We'd like to tell you more about Hurletron controls . . . at your convenience . . . and without obligation on your part. Write us . . . and tell us when you'd like a Hurletron engineer to call.

ELECTRIC EYE EQUIPMENT COMPANY

1930 EAST FAIRCHILD STREET, DANVILLE, ILLINOIS

Manufacturers of: Hurletron ROP Color Registration Controls, Automatic Controls of Caliper and Weight on Paper and Board; Center Line and Side Web Guide Controls; Cut-off and Back-Up Controls; Slitter Controls; Moisture Controls.

HURLETRON

TRON HURLETRON

HURLETRON HURLETRON

TRON HURLETRON HURLETRON HURL

HURLETRON HURLETRON HURLETRON

Mr. Wm. J. Bishop and Mr. Boyd B. Loveless, Hurletron representatives, will be at the Statler-Hilton, Dallas during the A.N.P.A. Mechanical Conference

Miami Daily News Growth

21 Hoe streamlined color convertible press units ordered for Miami's oldest newspaper

Still expanding rapidly in its 60th year serving greater Miami, the News has specified 21 Hoe streamlined color convertible press units for their new $5,000,000 plant. This modern, efficient facility will soon take the place of the famous News Tower—long a Miami landmark.

HERE'S WHY LEADING PUBLISHERS, LIKE THE MIAMI DAILY NEWS, CHOOSE HOE PRESSES.

Only with Hoe presses can publishers take advantage of Hoe's engineering leadership. For example, Hoe's latest development—an exclusive control for both reversing printing couples and

Dictates New $5,000,000 Plant

varying oscillation of ink drums. Both these adjustments can now be made outside of the unit housing—on press room floor level.

Many publishers, to meet the ever increasing demand for R. O. P. color, now specify Hoe's recently developed Multi-Purpose Color-Ink Pumps. On a full width newspaper press, this Hoe achievement makes possible the printing of either spot or process color with a different color on each of the four pages across the web. This eliminates the need for portable ink fountains... and cuts your color press make-ready time.

These developments typify the Hoe's engineering leadership... the pioneering that is constantly simplifying operation — cutting printing costs.

R. HOE & CO., INC.

910 East 138 Street • New York 54, N.Y.

BRANCHES: BOSTON • CHICAGO • SAN FRANCISCO

BIRMINGHAM • PORTLAND, ORE.

Graphic Arts Equipment and Supplies

Literature for the Asking

Keep Yourself Informed. The folders and bulletins listed below all pertain to modern equipment, supplies, processes and/or methods. These have been prepared especially for plant managers, superintendents and foremen. Please ask for the pieces selected by number and send your request to Literature Dept., *Printing Equipment Engineer,* 1276 West Third St., Cleveland 13, Ohio.

Composing Room

INTERTYPE TTS FACES

Comprehensive specimens of current Intertype Teletypesetter faces are shown in a 28 page booklet released by Intertype Corporation. Unit fonts for both news and classified are illustrated. Thirty-four matrix fonts are now available. Specimen texts illustrate size, weight and leading variations. Examples of stock market reports and quotations, sports columns and classified advertising are also included. Also contained in the booklet is information on the design of unit font matrices and their relation to the mechanics of tape operation. For a copy, please mention PEE No. 156L in your request.

Platemaking

ZINC ALLOY FOR ETCHING

A four page, two color bulletin is descriptive of Imperial Type Metal Co.'s Vitaplate, a zinc alloy for powderless and conventional etching. Included in the bulletin is a description of the alloy along with a list of its properties. Some of the properties listed are: It can be re-etched, can be sawed, tooled, soldered and repaired. Specifications of Vitaplate are included in a chart. For a copy, please mention PEE No. 157L in your request.

AUTOSCREEN ORTHO FILM

A service publication, *Kodalith Autoscreen Ortho Film,* is used to describe in detail the use of such film in the conversion of continuous-tone photographs to dot-patterned photographs. The film, manufactured by Eastman Kodak Co., enables owners of Multilith, Davidson, and other offset lithographic duplicators to make plates for pictures with a conventional view camera. The publication shows how the film can also be used for studio-setup shots, and for quick halftone negatives to illustrate catalogs or parts lists. A number of commercially prepared pre-sensitized offset plates readily adaptable for use with Kodalith Autoscreen Ortho Film are listed in the booklet. For a copy, please mention PEE No. 158L in your request.

PITMAN SUPPLIES CATALOG

A 100 page, platemaking handbook of Pitman Special Processes, 2nd edition, has been published by The Harold M. Pitman Co. Contents include such processes as the Pitman Black Print Process, Deep Etch Process, Glasprint Process and the Verse Print Process. In addition to the material on processes, a glossary of Graphic Arts terms commonly used, and a set of conversion tables are included. Standard photographic formulas are also incorporated in the handbook. For a copy, please mention PEE No. 172L in your request.

Pressroom

3M MAKEREADY

Minnesota Mining and Mfg. Co.'s system of letterpress makeready is described in a four page, double-fold bulletin. The various steps of the makeready process are graphically described with illustrations. Inserted in a cutout pocket of the bulletin are two sheets of 3M Makeready overlay with a gray scale of 100%, 75%, 50% and 25% mechanical tone. One sheet is before and one after exposure showing approx. rise of tonal areas. Also included is a price list of the plastic-coated overlay with standard roll sizes and specifications of the 3M Exposure Unit. For a copy, please mention PEE No. 160L in your request.

STAUDE "1000" ROTOGRAVURE PRESS

An 8½ in. by 11 in. fold-out to 17 in. by 21 in. folder is used to describe the Staude "1000" Rotogravure Press. Well-illustrated, the piece shows in progressive pictures how engraved cylinders can be changed relatively quickly on the press by means of demounting the cylinders and frames as a unit onto a special dolly. Also shown is how the ink supply reservoir and pump unit unplugs and rolls away from the press on its special carriage. Other features of the press also are described. For a copy, please mention PEE No. 159L in your request.

ANSWERS ABOUT DUAL-LITH

Davidson Corporation has published a 24-page booklet on *Questions and Answers About the Davidson Dual-Lith.* In the well-illustrated booklet are asked and answered 46 questions

about the application and operation of the equipment. Photographs and diagrams are used to help explain how the Dual-Lith performs offset lithography, simultaneous two-sided lithography, Davengraving, dry offset, letterpress, imprinting, numbering and perforating. For a copy, please mention PEE No. 161L in your request.

PAPER CONDITIONING

Vapo Systems, a method of moisturing paper in either its printing cycle or in the process of converting, is illustrated and described in a one page sheet. Vapo Systems may be applied to rotogravure presses, magazine presses and several types of fabricating or converting machinery. Paper is moisturized by calibrated spray jets spaced across the running web. For a copy, please mention PEE No. 162L in your request.

WEB-FED OFFSET PRESS

The firm of Hess & Barker, Philadelphia, has completed a new 5½ in. by 8½ in., two-color bulletin featuring its Web-Fed Perfecting Offset Press. The folder shows the different color combinations possible when using one, two, three or four units, and one to four webs. The folder also contains a photographic reproduction of a single unit with various features indicated. Some important specifications are also included. For a copy, please mention PEE No. 173L in your request.

Miscellaneous

PAPER WIPERS

Samples and profuse illustrations of applications are given in the Kimberly-Clark Corp.'s presentation folder on Kimwipes, its new industrial wipers. Types of Kimwipes include the 1300's, general purpose wipers; the 900-L's, precision wipers; and 900-S's, optical wipers. For a copy, please mention PEE No. 163L in your request.

DOCK BUMPERS

A specification sheet, detailing design and installation information on its line of Flex-O Rubber Dock Bumpers, is available from Bumpers, Incorporated. In the sheet are shown over a dozen drawings including five which indicate various models available. Drawings are also included to illustrate various methods for mounting Flex-O Rubber Bumpers such as on concrete docks and on existing wooden bumpers. An installation for a vertical bumper

(*Continued on Page* 124)

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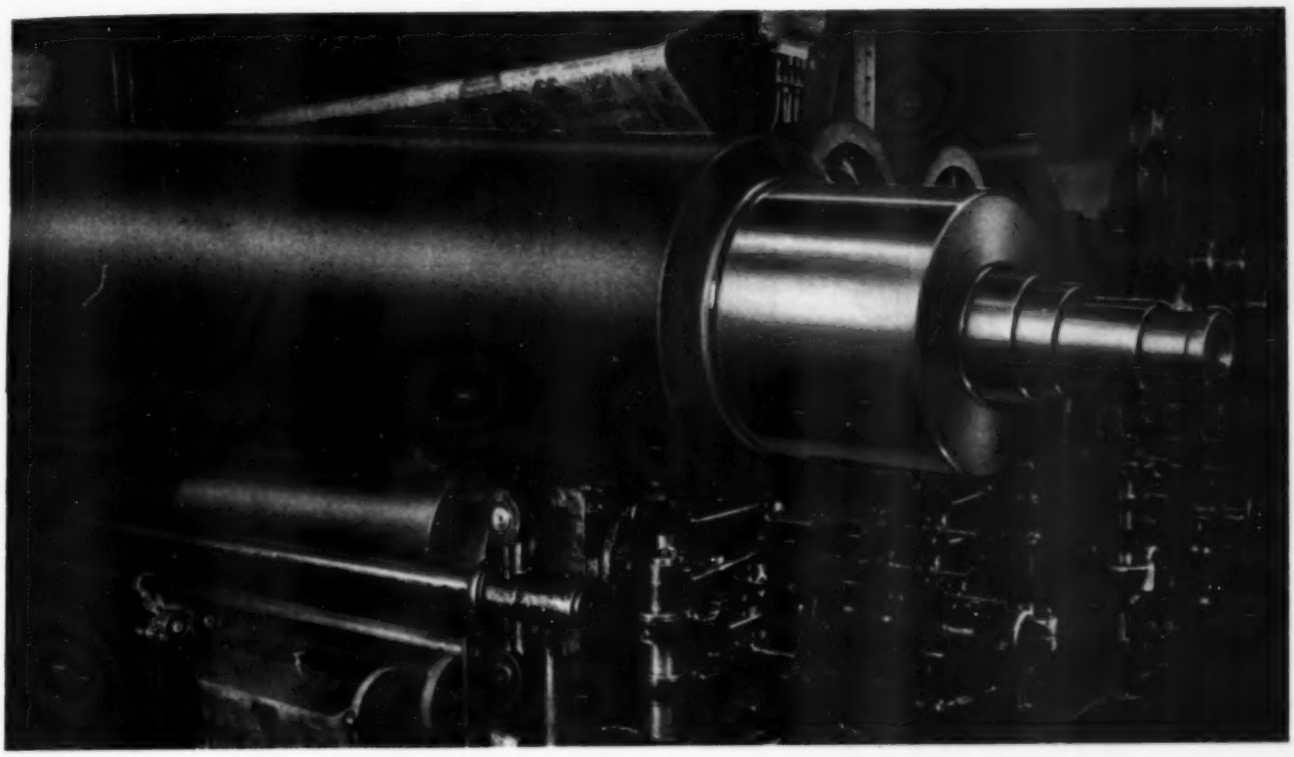

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—says Paul R. Blaetz, President Blaetz Brothers, Inc., Publishers of the Breeze newspapers

"After nearly thirty years of operation and learning many lessons the hard way . . . we at The Breeze . . . are using as much automatic equipment as we can pack in a 40′ x 120′ building.

"We have been using Teletypesetter equipment for 10 years to set body matter for our weekly newspaper and publication printing work. Our experience with TTS is that it's a money-maker and time-saver.

"In fact, we've come to think of the two Teletypesetter units installed on our Model B high speed Intertypes as an integral part of the linecasting machine.

"In addition to publishing a weekly newspaper with a circulation of 5,200 and averaging 14 to 16 pages, 75% of our dollar volume is commercial and publication printing. Often we set several hundred galleys of 12 em wide type per week. Some of it is straight matter, a large part is tabular (see below). With TTS we can count on almost an average of 3 galleys per hour.

"During peak periods we can use our linecasting machines for manual operation during the day. Then, run tape — perforated during the day shift — through the night.

"It is my opinion that a Teletypesetter system installed on a properly operating linecasting machine will pay for itself in less than four years . . . and then go on to earn additional profits."

For information on how TTS can increase your production write: Teletypesetter Corp., Dept. PE6, 2752 N. Clybourn Ave., Chicago 14, Ill.

Paul R. Blaetz examines tape coming out of the TTS Operating Unit attached to one of their Model B high speed Intertype machines. About Teletypesetter equipment Mr. Blaetz says, "It is a good example of how we let modern equipment help us make money."

A competent touch-typist can quickly learn to punch tape on a TTS Perforator. A beginner should start to produce useable tape a day or two after instruction.

TTS Operating Unit produces a continuous flow of type automatically, without interfering with normal manual operation of linecasting machine.

WITH A TTS SYSTEM YOU CAN . . .

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Rehabilitation of the flooded areas of Eastern Pennsylvania is gradually being accomplished. Although it will be many weeks and months before normal living may be resumed in these areas, the enormous task of taking care of those in need of food, clothing and medical attention is in the hands of those gallant Red Cross workers who have "taken over" so courageously in this emergency.

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Teletypesetter's versatile composition enables users to easily set run arounds, box scores, centered or flush left subheads, and tabular matter in any column width up to 30 picas.

TELETYPESETTER

San Francisco Chronicle gets million dollar face-lifting

New, giant electronically-controlled press units custom-built by HOE

To provide better service and readability for its customers, the San Francisco Chronicle has purchased the most modern press unit in the Bay Area. Cost—$1,000,000. At the same time the Chronicle has adopted the new Corona type face.

Why did the Chronicle and 30 other west coast papers choose HOE?

The answer lies in Hoe's engineering leadership. For example: In the new press, Hoe's exclusive control for reversing and for oscillation are both operated from *outside the unit housing*, on press room floor level. And Hoe's recently developed Multi-Purpose Color-Ink Pumps will help the publishers meet the increasing demand for R.O.P. color. This Hoe achievement permits the printing of either spot or process color with a different color on each of the four pages across the web. No need for portable ink fountains. Make-ready time is cut 'way back.

These developments illustrate the way engineering leadership can simplify operation and cut costs.

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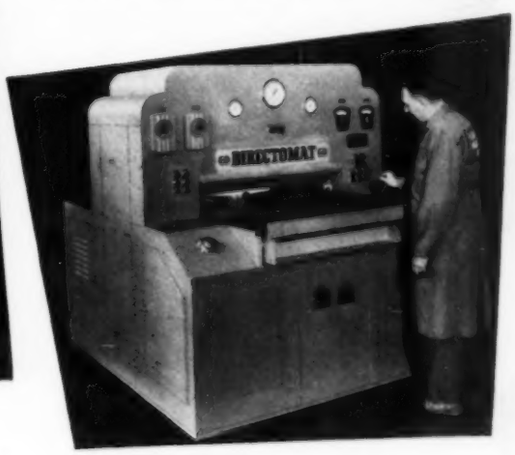
Directomats simplify the molding of accurately registered color mats. In a pamphlet entitled *Production Methods for Better ROP COLOR in Newspapers*, the Milwaukee Journal advises: "Use the hot mold direct pressure method for molding color mats." The Milwaukee Journal and approximately 75% of the other leading newspapers molding ROP color mats use Directomat molding presses.

800 ton Directomat



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REMEMBER: the Directomat is also excellent for the production of high quality black and white mats.

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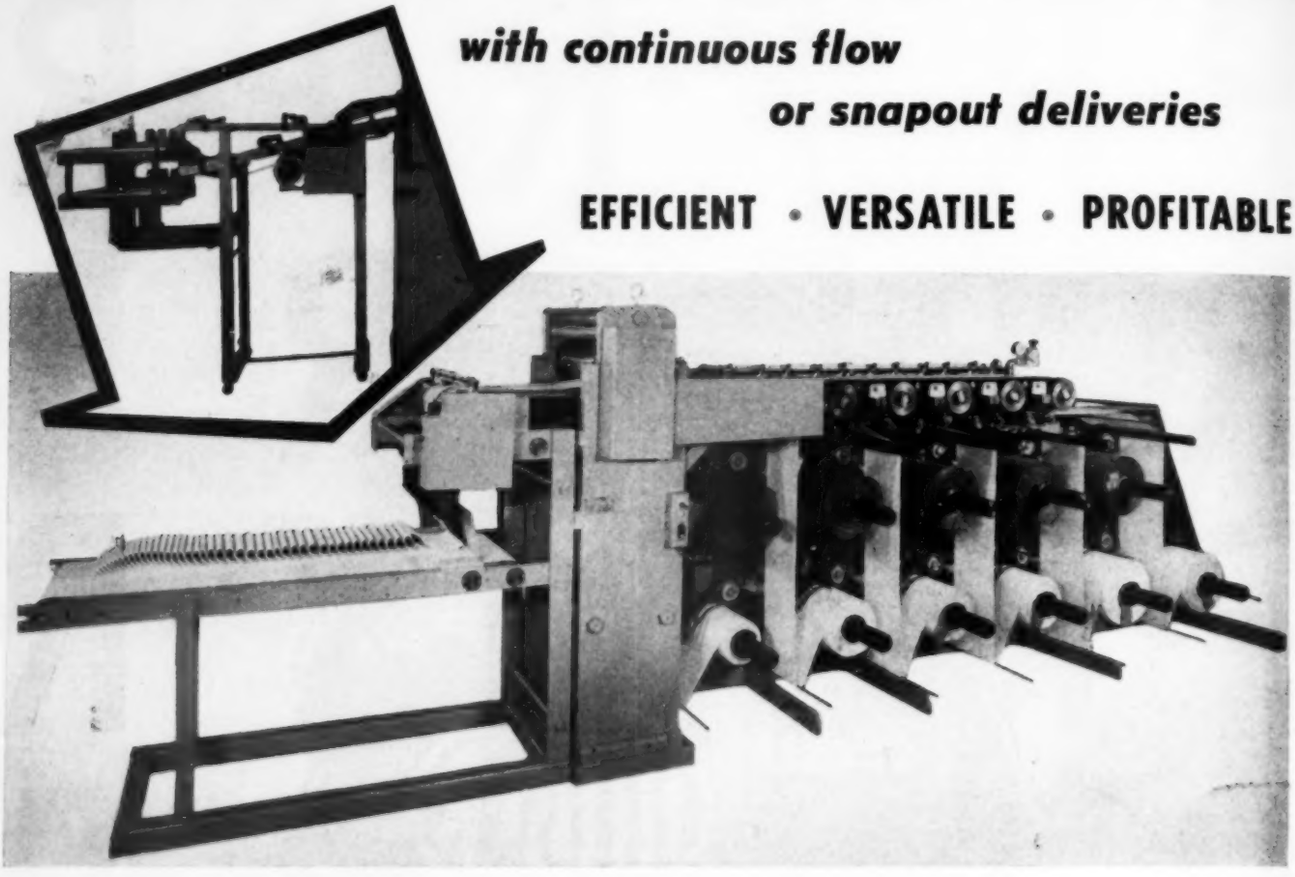

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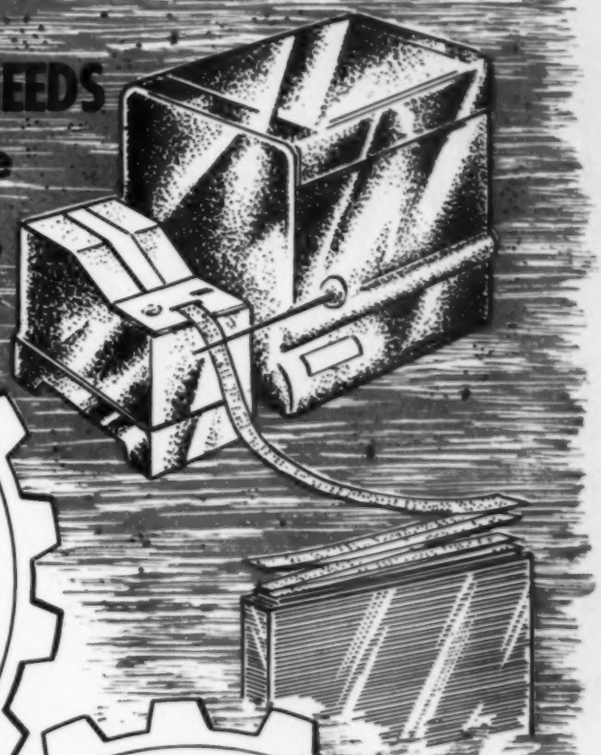

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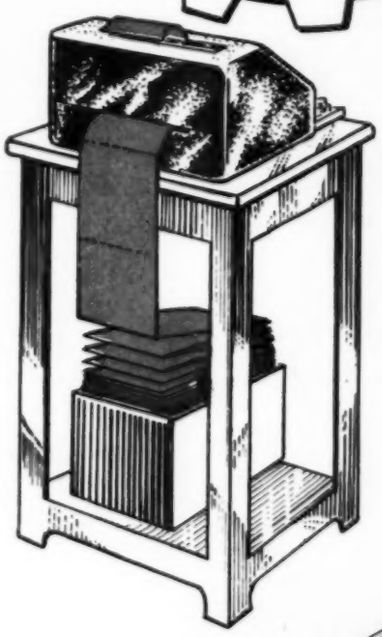

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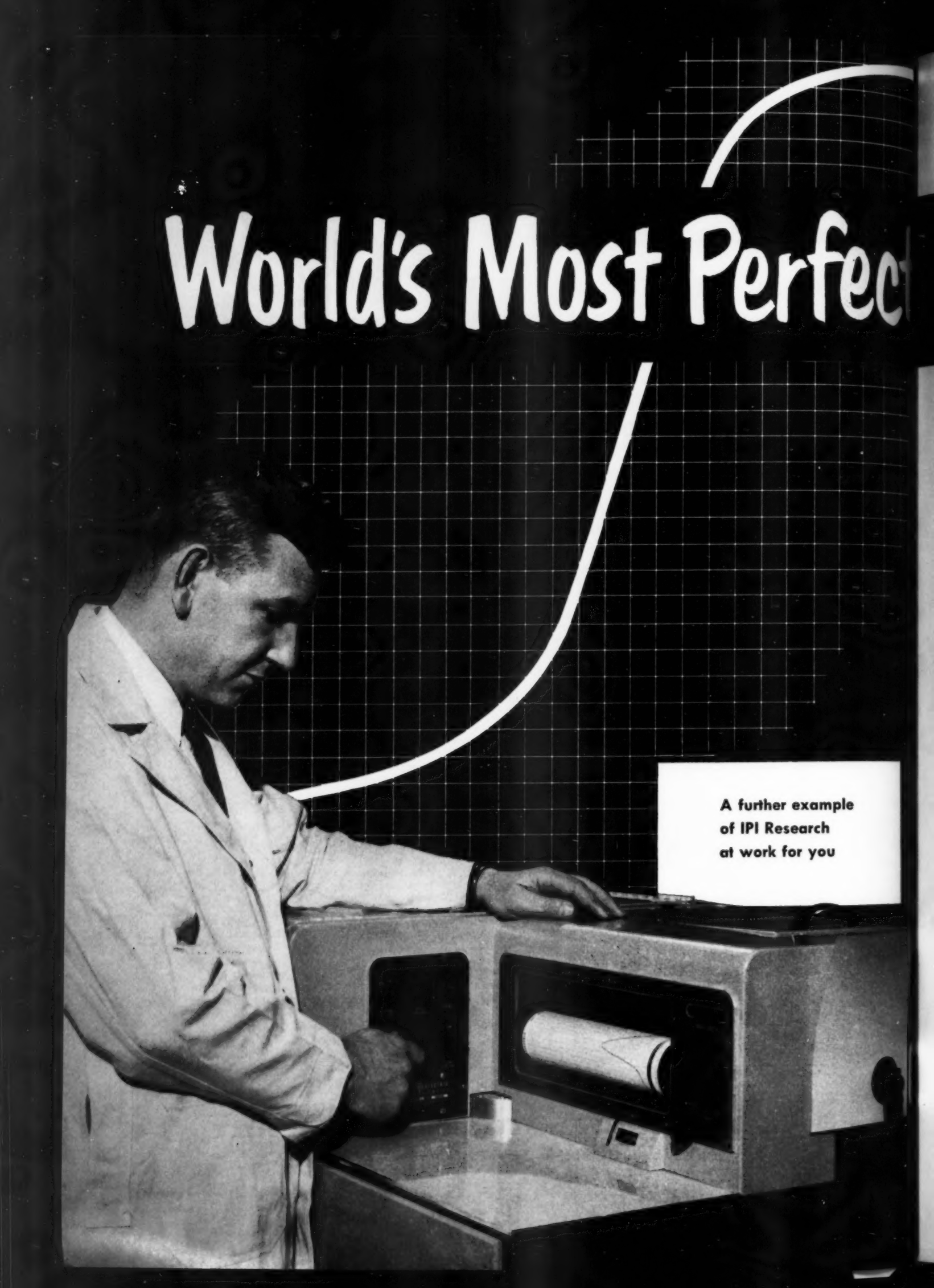
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This "passion for improvement" is the working philosophy behind all IPI research. Scores of project groups are constantly at work in the IPI laboratories . . . concentrating all of their efforts on the development and improvement of printing inks that will best serve the changing needs of printers everywhere.

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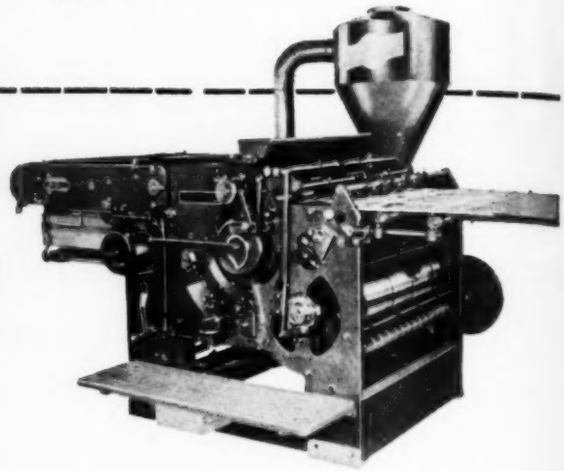
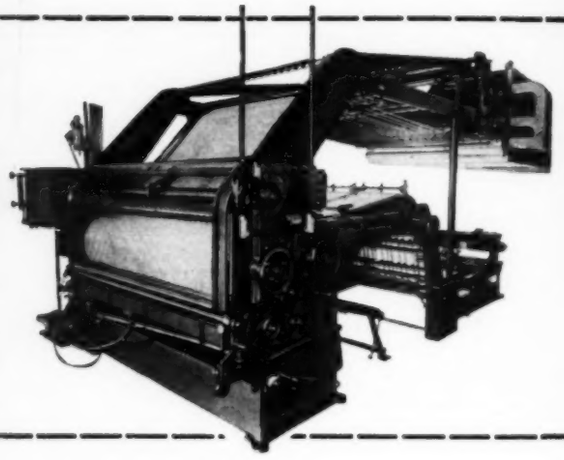
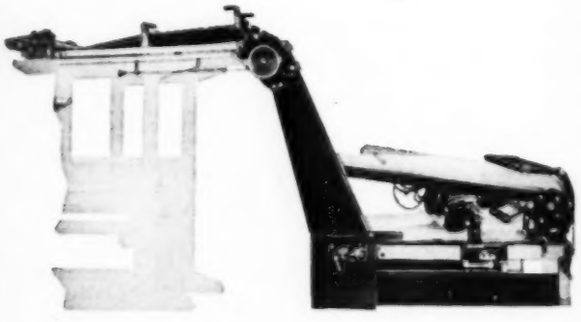
BRONZING Equipment will bring new jobs into your shop . . . and a Christensen High-Speed Bronzer attached to your press will mean increased profit with low operating costs. Matches the practical running speed of your press . . . exhauster-reclaimer keeps bronze out of the press-room and in the machine.



VARNISHING of labels, magazine covers, circulars and gift wrappings enhances both product appearance and profits. The Christensen Varnishing Machine operates at almost twice the speed of any other present varnisher. Dual-level oven decreases floor space required. The Christensen will handle paper or board in widths up to 78 inches.



STREAM FEEDING with the Christensen Continuous Feeder means no stopping of the press . . . more printed sheets per hour. Improved register because sheets arrive at register position at one-sixth the speed of sheet-by-sheet feeders. Floor loading reduces operator fatigue, reduces loading time, eliminates stairs and platforms.



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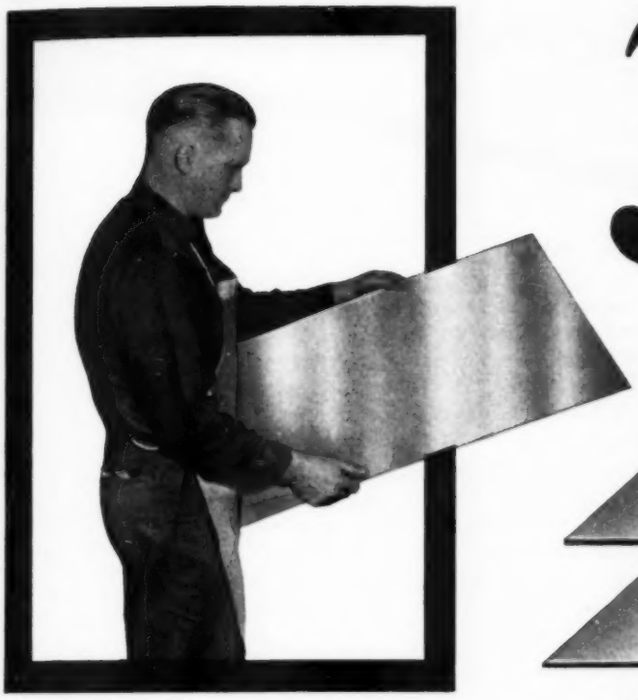

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An Open Letter to Newspaper Publishers

Gentlemen:

A recent survey of a medium metropolitan newspaper established the fact that an average of 4.05% of all straight composition has to be reset due to errors in the first setting. Since it takes at least twice as long to set corrections as original composition, it means about 8.10% of all operator time is non-productive.

If the scale is $100.00 per week for a 5-day week and 8.10% is lost, it amounts to $8.10 per week, or $1.62 per day, per operator. Bear in mind, this loss is only on the machines. At least an equal amount of time and money is lost in the proof room and the make-up. This would bring the loss up to $16.20 per week, or $3.24 per day, per operator.

Matrix Contrast Service can save you one-third of this loss, which is equal to $5.30 per week, or $1.06 per day, per operator.

For example, here are the savings for a newspaper published 6 days (morning or evening):

Saving per day, per operator	$1.06
Six operator-days per week, per machine -- 52 weeks	312 days
Total Saving per machine, per year	$330.72

(This does not allow for any overtime or extra shift which would mean additional savings at no extra cost. On a 13-shift basis -- Morning - Evening - Sunday -- the savings equal $716.56 per machine.)

The savings in display composition are one-third greater than in straight composition. If you are a commercial printer or trade plant, it will pay you to compare the savings with the cost of Matrix Contrast Service. For further information, write or wire for booklet today.

Copies of this survey will be cheerfully forwarded to you upon application. This survey not only shows the savings in errors but savings in cutting down time on the bank, and how these time savings are utilized for clean, additional production.

Cordially yours,

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What To Look Into

When changing to narrower column and page width in composing, stereotype and press departments to accommodate reduced press roll width.

By GEORGE FULLER*

**Stereotype Superintendent, Cleveland* Press

Changing to a narrower newspaper page width is a somewhat involved though not mysterious operation. All departments of a newspaper are affected by the change, from the business and editorial offices to the mechanical departments. So a minimum piece of advice is: Coordinate the changeover through the various department heads. Get them together to discuss the physical changes.

The immediate concern in preparing this article is to discuss the necessary equipment modifications in the mechanical departments. This is not an exhaustive compilation of all the modifications for all types of equipment. This article is intended to list the general changes which will have to be made in most cases and to serve as a thought-starter for the mechanical executive as he plans the changeover in his own particular case.

One problem to be solved is how much of the narrowing will be done by mechanical means and how much by increased stereotype mat shrinkage. Another matter to be decided is what point body size column rule should be used.

Once beyond such broad questions, the change to a narrower page width becomes one of interconnected mechanics. Following editorial and advertising matter through the production processes will show the changes which must be made to permit using the narrower width of newsprint.

When the newspaper mechanical executive comes to the point of planning the actual changes in his equipment he can get help from the equipment manufacturers. These manufacturers know what must be done to modify their equipment. Often they have blueprints which can be supplied showing exactly how to accomplish a changeover. In these cases, it's wise for the mechanical executive to take advantage of such planning and ask for the drawings. American Steel Chase Co., Wood Newspaper Machinery Corp., and many other firms offer such services to their customers.

Composing Room

In the composing room linecomposing machines, the left-hand mold liners must be replaced if there is to be no change in slug body point sizes. If there is a change in body size, it will be necessary to replace both left and right-hand liners. New recessed molds may be necessary on the Linotypes if the end rib does not cover the left-hand liner. On the Intertype, a new mold cap may be necessary or the cap can be shifted slightly sidewise for proper position. Check the ejector blades on linecomposing machines. A new mold will be required in the Elrod strip caster if the column rule point size is to be changed. On the Monotype, the mold is adjusted for the new point size.

Form chases can be modified in a number of ways. The foot stick in each case must be trimmed to the new page width and in some cases to a new page length. The side bar can be widened by welding a strip to one side of the bar and drilling a new hole for the locking screw, or by welding studs on the wedges of the side bar. Top bolster of chase should be filled in the same amount that the side bar is moved inwardly to permit the mat to conform to the Autoplate.

It's a good idea to make up a chart showing the single and multiple column measurements in the new page width. These charts should be distributed to foremen, markup men, and makeup men in the composing room, and foremen in the stereotype room and the pressroom. The charts are especially helpful until such time as the men memorize the new widths through usage. For example, on a page which is to have 8 col. with 11 pica columns and 4 pt. column

Peggy Castle, Warner Brothers star, is shown welcoming the 1956 Convention of the International Assoc. of Printing House Craftsmen to be held in Los Angeles, August 12 to 15 at the Biltmore Hotel. Accompanying her are (left) Bill Brock, publicity chairman, and (right) Reaugh Fisher, general chairman.

The program for the convention has been planned with a broadening of the educational scope in mind.

When General Chairman Reaugh Fisher outlined his basic plans for the International Convention Educational Program, he pointed out that it would be his purpose, first, to reduce the total number of speakers so that those that do talk will have ample time to develop their subject; second, to see that the speakers all participate in the Post-Clinic Consulation period on a round table basis; third, that the Clinics themselves be set up on a production step basis rather than a process basis; and fourth, that the speakers all be asked to develop their remarks with special emphasis on the problems and needs of the smaller shop operator.

rules, the chart would read like this:

1 column	11 picas
2 column	22 picas 4 pts.
3 column	33 picas 8 pts.
4 column	45 picas
5 column	56 picas 4 pts.
6 column	67 picas 8 pts.
7 column	79 picas
8 column	90 picas 4 pts.

Stereotype Department

In the stereotype department, it will be necessary to fill in the holes on the Sta-Hi Former screens to match the newly narrowed form size. This can be done with Smooth-On, an iron powder cement. Since a narrower page width means the upper edge of the mat will be lower as it is in position in the plate casting box, a longer tail piece must be obtained. If the saw in the plate casting box cannot be adjusted low enough to cut the new plates at the proper place, it may be necessary to alter the saw hanger. Complete plans for this operation can be obtained from the manufacturer. If the saw cuts into a rib on the plate, it will be necessary to fill in the top rib and cut a new one with the proper clearance. The old rib can be filled in by cold welding. Or the manufacturer will furnish brass saw rings that can be inserted in the cylinder where the saw strikes the rib. The cylinder must be taken out and put into a lathe to perform this operation.

Brannon's Pressroom Remarks

Paul Brannon, pressroom superintendent, Cleveland *Press*, suggests consideration of the following: The stops on the paper reel arms must be lengthened to hold the rolls of newsprint on the reels securely. In some cases, this is done by use of a key in a keylined channel in the reel cylinder.

Press cylinder clips must be reworked, of course, to lock the narrower plates on the cylinder and to provide for reduced side margins. The center clip ring is stationary. The inside floating clips and the outside clips on each side also must be reworked to reduce page margin when moved in toward the center of the cylinder to lock the plates.

Not all impression cylinder blankets will have to be changed. Some will not have been used long enough for the blanket to form bolsters on the blanket.

It may become unnecessary, due to narrowing of the page width, to ink one or more columns across the press plate cylinder. In these cases, orifices for inking an outside column or columns can be sealed on Hoe presses and keys closed tight on outside column or columns on Goss and similar ink fountains.

Should increased shrinkage necessitate lengthening the page, another adjustment may be required. The slightly longer plates may ride over the blanket at the blanket cylinder reel slot opening. If the edge of the plate should strike over that opening, of course, it would not print. So it is then necessary to insert a strip of metal or filler piece in one side of the slot to provide more blanket supporting surface against which to print.

Going to Wider Page

Now we come to the case of increasing the page width, such as when a change is made from an 8 column to a 9 column page. Some time ago, details regarding a change to a 9 column page at the Asbury (N. J.) *Press* were reported in an *ANPA Mechanical Bulletin*. The change was made from 8 column 12 picas to 9 column 11½ picas. We are not printing all of the operations in detail, but will mention briefly the important modifications involved. A separate article will be published in an early issue.

In general, it will be necessary to take just the opposite steps to those outlined above for narrowing the newspaper page.

New liners and ejector blades must be installed in linecomposing machines; new stereotype mats bought with proper moisture content; new tail sheets fitted; saw cuts and shaver stop positions checked; press clips modified; folders and trolleys repositioned. Other steps required include reworking foot sticks and side bars on chases; purchasing new screens for the Sta-Hi Formers; recovering press inking rollers; adding filler piece in the press nipping rollers; and adding one folding pin.

Changing To Narrower Page Width

In the Composing Room

1. Install new mold liners and ejector blades in linecomposing machines.
2. Install new recessed molds where necessary.
3. Cut down or remake signature cuts.
4. Install new column rule mold on Elrod machine if body point size is changed.
5. Modify chases, either by welding studs on the wedges of the outside bar and trimming the foot stick; or by welding a steel strip to the smooth side of the side bar, drilling a new hole for the adjusting screw, and trimming off the foot stick in case the page is to be lengthened.
6. Make up a chart showing single and multiple column measurements in new page width.
7. Check with editorial department regarding TTS wire service whether or not present transmission standards will be affected by new column width.
8. Check with TTS service and editorial to determine if new matrix fonts of lesser unit count must be obtained.

In the Stereotype Room

1. Fill in holes in screens of Sta-Hi Formers with Smooth-On to match the new form size.
2. Buy new stereotype mats for shrinkage required.
3. On Autoplate equipment, check saw action against ribs in new plates. Fill in old rib and cut new rib, if necessary.
4. Mill down into saw hanger if that is necessary to pick up depth on saw. Get blueprints for such a change from the manufacturer.
5. New bolster packing strips required for Pony Autoplate.
6. Cut longer tail sheet to fit the new page size.
7. Reset Pony Autoplate for taking narrower page.
8. Reposition stop in shaving arch of the Pony Autoplate.
9. Adjust trimming knife in the Junior Autoplate shaver.
10. Weld an extension on the upper kickout fingers on the Autoplate if necessary to make the bottoms of the fingers strike the top of the plate.

In the Pressroom

1. Relocate stops for the reel arms.
2. Modify plate clips for new width plate and if necessary for narrower margin.
3. Install new impression cylinder blankets provided the blankets have been run long enough on wider webs to form bolsters.
4. Check inking rollers to see that overhang is not sufficient to cause throwing of ink. If the throwing condition exists, grind down the overhang.
5. Plug up orifices from Hoe ink pumps or close keys affected on Goss and similar ink fountains that feed extreme outside ends of the plate cylinder if they are no longer needed.
6. Reposition trolleys on margins and move formers to center.
7. Remove filler piece in nipping rollers.
8. Cutting and folding cylinders should be drilled and pins relocated, to catch rear edge of paper during folding operation.
9. Conveyor wires and conveyor rollers may have to be repositioned to support papers squarely in the center.

INO One Year Old

At the end of one full year of operation, the Institute of Newspaper Operations can point to several definite accomplishments. Guiding philosophy of the group is that the "greatest area for improvement open to today's management is in the better utilization of the resources we already are using." The following men were elected directors at the recent annual meeting of INO: Lisle Baker, Vice Pres., Gen. Mgr., Louisville (Ky.) *Courier-Journal* and Louisville (Ky.) *Times;* William Baumrucker, Bus. Mgr., Boston *Herald-Traveler;* P. W. Bell, Pers. Dir., Los Angeles *Times-Mirror;* C. N. Boyd, Exec. Vice Pres., Washington (D.C.) *Star;* H. B. Bradley, Gen. Mgr., Birmingham (Ala.) *News-Post;* C. R. Buxton, Bus. Mgr., Denver (Colo.) *Post;* Alvah Chapman, jr., Gen. Mgr., St. Petersburg (Fla.) *Times;* E. C. Davis, Vice Pres., Bus. Mgr., Beaumont (Tex.) *Enterprise-Journal;* W. A. Dyer, Gen. Mgr., Indianapolis *Star-News;* Andrew Fisher, Asst. to Vice Pres., New York (N.Y.) *Times;* M. J. Frey, Pub., Gen. Mgr., Portland (Ore.) *Oregonian;* A. G. Gormley, Vice Pres., Bus. Mgr., Des Moines (Ia.) *Register & Tribune;* H. F. Grumhaus, Prod. Mgr., Chicago *Tribune;* R. L. Jones, Asst. Gen. Mgr., Detroit (Mich.) *News;* J. L. Knight, Vice Pres., Gen. Mgr., Miami (Fla.) *Herald;* Frank McKinney, Prod. Mgr., Kansas City (Kan.) *Star-Times;* D. P. Miller, Gen. Mgr., Allentown (Pa.) *Call-Chronicle;* R. A. Quisenberry, Pres., Pub., No. Hollywood (Calif.) *Valley Times;* J. R. Reitemeyer, Pres., Hartford (Conn.) *Courant;* F. W. Schaub, Gen. Mgr., Decatur (Ill.) *Herald Review;* F. D. Schurz, Pub., Gen. Mgr., South Bend (Ind.) *Tribune;* R. H. Spahn, Exec. Asst. *Oklahoman and Times;* and C. A. Weis, Pres., St. Louis (Mo.) *Globe Democrat.* Re-elected officers include: Lisle Baker, president; M. J. Frey, vice president; H. B. Bradley, treas.; Harold Grumhaus, assistant treasurer; and Robert Spahn, secretary.

For the training of both apprentices and journeymen, INO has installed press training programs in ten member newspaper plants; six more have been scheduled for the near future. Management seminars on pressroom operations—designed to give a working knowledge of presses, how they work, their limitations, and their relationship to the finished newspaper—have been held especially for newspaper accounting, administrative, advertising, personnel, and other management people. Early in 1955, engineers analyzed work load and schedule factors in the setting of type for newspaper stock market reports, including procedures in use by Associated Press and the New York Stock Exchange. Out of this study grew a proposal for the design of a new slug-casting machine, to cast from new fast Teletype circuit an unjustified slug for each listing. Listings would be automatically selected according to the individual newspaper's policies. For the future, INO plans a survey of newspaper stock market table work loads, to try to estimate demand for machines of the new design.

50th Anniversary Surprise for Harry A. Porter came while he was vacationing in Florida. The 13th of April marked the completion of his 50 yrs. of service with Harris-Seybold Co. An illuminated scroll in a mahogany box, which turns to reveal the signatures of hundreds of Porter's friends in the company, was presented to him on his golden anniversary day by Mayor A. D. Henderson of Hillsboro Beach (left). Porter was for many years vice president-sales, and is now senior vice president.

Jernt Display Typecaster Announced—The Jernt Display Typecaster is now being produced and distributed by Typesetting Machine Engineers as a display composition unit. Fred Jernt, the developer, is shown in the accompanying picture.

Using a standard Linotype base, cams and casting mechanism, the machine has been adapted to casting cored slugs using Ludlow matrices. The cored slugs are 30 picas wide. Thickness may be either 18, 24 or 36 pts., depending on the mold liner used. The one piece liner also acts as the core of the mold. Changing the core takes about the same time as changing a pair of liners in an ordinary slug machine.

Up to 48 pt. matrices may be cast on the 36 pt. slug. The usual practice is to cast most of the type on the 36 pt. slug; when casting smaller type, the shoulder is used as spacing material.

Special sticks for composing roman and italic matrices in the 30 pica length are furnished; also furnished is a filler piecer for casting blank slugs to use as furniture.

The mold is made from a special tool steel and is mounted in the mold disk in the usual manner. Front and back of the slugs are smooth.

The quality of the face is achieved by the method of coring the slugs, sponsor explains, including a metal pot plunger and mouthpiece engineered to cast large type. The plunger is fitted with a sleeve which expands as the downward stroke begins, permitting no metal by-pass. Air in the mold moves around the core as the metal enters on one side. The air then escapes through special vents in the mouthpiece.

Matrics are assembled in the usual manner in the 30 pica stick. When the line of matrices is assembled and justified in the stick, it is placed between the vise jaws from the top. The jaws are so built that the stick cannot be placed wrong, and the type is automatically aligned.

The machine is started by pulling the clutch lever and the casting cycle is made in the usual manner of slug composition machines. Power is furnished through a Reid V belt drive. The slug is ejected into a galley.

The machine is mounted on a steel plate and a sheet metal cabinet encloses the mechanism. The top of the cabinet is slanted to provide a working top. Space required for the complete machine is 42 in. by 42 in.

The metal pot is heated with gas or electricity and Margach or Monomelt metal feeding devices are available.

A conversion unit is also available for application to any standard machine.

For further details, please mention PEE No. 147 in your request.

Presenting . . .

the ANPA Mechanical Committee and Research Executives

The Mechanical Committee of the American Newspaper Publishers Assoc. acts as advance guard in the development of better production methods for this country's newspaper plants. This past year has been a busy one for the Committee, as usual. One of the major efforts has been to cooperate in every way possible with the development work carried on at the ANPA Research Laboratory in Easton, Pa. Another prime effort has been that of collaborating with the American Assoc. of Advertising Agencies in development of standards for r.o.p. color printing. In this regard, two joint ANPA-AAAA reports have already been published: *Plant Procedures for R.o.p. Color Printing*, and *Recommended Ink Standards for R.o.p. Color Printing*. A third report is in final preparation—*Proper Preparation of Copy, Art and Photography*. A fourth report may be available before the end of 1956—*Preparation of Engraving and Duplicating Material*. Of course, in all its activities the Mechanical Committee's aim is to assist in developing better, faster, cheaper newspaper production methods so that the newspaper can continue to fulfill its important function as the prime means of communication in the country.

J. HAROLD MINTUN
Committee Chairman and
Prod. Mgr., Pittsburgh *Press*

LEVEN T. DEPUTY
Mech. Supt., Dallas
(Tex.) *Morning News*

WILLIAM DWIGHT
Pres., Holyoke (Mass.)
Transcript-Telegram

Chas. FREDERICKSON
Mech. Supt., Westchester County Publishers, Inc., N. Y.

HENRY H. GARLAND
Prod. Mgr., Pittsburgh
(Pa.) *Post-Gazette*

W. E. GIBBONS
Prod. Mgr., Portland
(Ore.) *Journal*

G. R. HUTCHINSON
Prod Mgr., Los Angeles *Times-Mirror*

GEO. F. MARSHALL
Prod. Mgr., Portland
(Me.) *Press Herald*

JOS. E. McMULLEN
Prod. Mgr., Milwaukee *Journal*

JOHN W. PARK
Prod. Mgr., Chicago
Tribune

HARRY SLOAN
Prod. Mgr., New York
(N.Y.) *Mirror*

W. W. SOUTHAM
Exec. Asst., Southam Co. Ltd., Montreal, Can.

JAMES L. STOTT
Bus. Mgr., Richmond (Va.) *Times-Dispatch* and *News-Leader*

E. R. WEISKITTEL
Pressroom Supt., Youngstown (O.) *Vindicator*

ALLAN M. WOODS
Prod. Mgr., *Newsday*, Garden City, N. Y.

RICHARD E. LEWIS
Mgr., ANPA Mechanical Dept., New York, N. Y.

FRANKLIN D. SCHURZ
Pres., ANPA Research Institute and Secy.-Treas., South Bend (Ind.) *Tribune*

ROY W. PRINCE
Technical Research Director, ANPA Research Institute, Easton, Pa.

ANPA Reviews Mechanical and Research Aids

The research work of the ANPA Research Institute has been accelerated during the past 12 months, said Franklin D. Schurz, Institute president at the ANPA Convention in New York, N. Y., April 26-28.

Currently, the invention which is receiving the most attention from newspapers is the ANPA-Dow high-speed etching process. This development permits the etching of halftones in 1½ to 1¾ min., and combination or line flats in 16 to 20 minutes without powdering or routing. Forty-five high-speed etching machines are being operated in 26 plants and more are on order.

Phototypesetting

As a result of the high-speed etching process, 11 newspapers are experimenting with phototypesetting, using either the Intertype Fotosetter or the Photon machine. Within a short time, Linotype hopes to enter the phototypesetting field with Linofilm.

Testing of Mat-Pak Grows

Mat-Pak has been improved to the point where it is now of uniform quality, and the numbers of newspapers testing the material will undoubtedly be increased during 1956.

Other Production Aids

A number of other production aids are now available to newspapers. The Cutler-Hammer stacker and counter has been thoroughly field tested and, when a few minor alternations have been completed, will be offered to the industry. Cutler-Hammer will next develop a programming system whereby newspapers will be delivered to the mailing room in the various sizes of stacks required. The Teletypesetter Corp. will soon market an automatic allotting machine which will permit the rapid transmission of perforated tape from a larger number of teletype perforators to a smaller number of high-speed linecasting machines. The T. W. and C. B. Sheridan Co. is now manufacturing a three-hopper stuffing machine which is increasing the market for stuffing equipment. The company is experimenting with a top and bottom wrapper for use in the mailing room. In cooperation with a manufacturer, ANPA Research Institute is studying the construction of a high-speed twine tying machine.

Research Institute is also continuing its investigation of high-speed Teletypesetter transmission.

The Institute is assisting in exploration of powderless etching of zinc, and is continuing to work with zinc suppliers to develop a product which will be useful to newspapers.

Direct Plate Printing Study

An intensive study to find a practical solution to direct plate printing has been undertaken at the laboratory. This study involves designing and engineering equipment for use by newspapers. An additional cylinder has been added to the Hoe Printmaster in the laboratory in order that studies may be made of dry offset utilizing stereotype plates.

The Research Institute is making another study, through the Institute of Paper Chemistry, to improve the quality of printing.

Color Printing

Will better printing processes mean improved color printing? Techniques employed for letterpress color reproduction are not necessarily the best for direct plate printing or indirect

letterpress. Research Institute is being equipped to seek the ultimate processes and techniques which will be used in making color separation plates for any printing process.

New at the Lab

In order to study the process of offset printing, Research Institute will shortly install a Goss wet offset press.

During 1955, a total of 29 representatives from 13 newspapers were trained in the use of the ANPA-Dow high-speed etching process.

High Labor Costs

The urgent need for research in the newspaper field is clearly indicated by high labor costs. Surveys indicate that for the average newspaper, payroll costs represent from 55% to 60% of all its costs of publishing.

A study of economic development in the Midwest indicated that, in general, during the next 15 years the average work week will be reduced five hours and wages will be increased about 45%. This should be a warning signal to newspapers to find ways to make their mechanical operations more efficient if they are to stay in a financially healthy condition—indeed, if many are even able to survive.

The first Research Institute project outside the mechanical field is a detailed study of composing room production cost records. A special committee is handling this project.

Lewis Reports on Mechanical Department

The increase in the cost of production, scarcity of newsprint, increase in use of r.o.p. color, plus applications of equipment and new processes have caused many members to look to the Mechanical Department for assistance in the problems relating to all these facets of mechanical production, said Richard E. Lewis, manager of the Mechanical Department, at the ANPA Convention in New York, N. Y.

The Department is primarily a service organization—in effect a clearing house of all pertinent information on production—and the assistance that is available to members is being utilized more and more. Since Jan. 1, 1956, two Special ANPA Reports have been issued on subjects which are of great interest to publishers. The first, issued on Jan. 17, 1956, deals with the 9 col. Format, how and where it is used. The second, issued April 11, 1956, deals with papers using less than 11.6 pica columns and/or 60 in. newsprint or less. Reactions from members on these two different approaches to the newsprint shortage problem have been excellent.

Mechanical Specifications

The Mechanical Department is now designing a special punch card system which will contain all pertinent mechanical specifications and all mechanical equipment for each member paper. This information will be so arranged, that it will be possible to tell exactly what any one paper is doing, or to supply a list of newspapers doing any one certain thing mechanically. In the past, the majority of this information has been in the files, but was not quickly compilable. With the new punch card system, any one or combination of several hundred pieces of information can be selected in a matter of minutes.

The Mechanical Conference

The 28th ANPA Mechanical Conference, to be held June 4-6, in Dallas, Tex., will be the first such meeting held in the Southwest. The three full days of technical sessions on r.o.p. color, stereotyping, advertising, engraving, composing room, mailroom, pressroom, and problems of the smaller city papers are expected to reach many new men in this new territory. Aim of the program, which is prepared by the Mechanical Committee and the Mechanical Department, is to provide useful information on present-day problems as well as on new processes, new equipment and new techniques.

ANPA-AAAA Committee

The second in a series of reports designed to assist newspapers in producing day-in-day-out uniformity of r.o.p. color reproduction in advertising and editorial matter was issued in January 1956. This is Joint Report No. 7, entitled "Recommended Standard Colors for Run-Of-Paper Color Printing." The inks recommended by the Joint Committee are based on a mixing and blending system using three process colors, nine toners and a mixing and blending white. With a supply of the 13 standard color inks, a newspaper can mix any quantity of ink desired for any color requested by the advertiser. If a complete stock of the basic colors is not available, the publisher can request his ink manufacturer to mix the standard colors. All of the r.o.p. color ink suppliers in the country have been consulted and have been informed as to the standards adopted by the ANPA and the AAAA.

Through this system newspapers can produce an unlimited variety of shades, ranging from pure strong colors to delicate pastels.

Joint Report No. 8, the third in

(*Continued on Page* 126)

Nutshell Summary

Services afforded by ANPA Mechanical Department to Member Newspapers

Services afforded to member newspapers of the American Newspaper Publishers Assoc. by the Mechanical Department under the supervision of Manager Richard E. Lewis with respect to all phases of production including mechanical procedures and the like are wide in nature. Each year the department expands its areas of usefulness to keep pace with the constantly changing conditions. These services are available to ANPA members only at no charge other than their membership dues.

In capsule form, we are mentioning the kinds and types of services afforded to ANPA newspaper member executives:

(1.) Personal assistance to ANPA members regarding all phases of newspaper production.

(2.) Over 30 *Mechanical Bulletins* are published annually. These are related to detailed reports of ANPA Mechanical Conferences, equipment and processes.

(3.) From time to time, special analytical reports are published, such as progress in 9 col. format and 60 in. or less newsprint roll widths.

(4.) A special punch card system is being devised. The mechanical data will enable Mechanical Department to furnish variety of information about what number of papers are doing with respect to a number of things mechanically as well as those having any combination of equipment.

(5.) Periodic surveys of page sizes, roll widths, type faces, etc.

(6.) Important reports on r.o.p. color have been published and others are "in the works". This work is being done in collaboration with the ANPA-AAAA Joint Committee. Reports deal with plant procedures, ink standards, copy preparation, art and copy and copy for r.o.p. color advertising.

(7.) Acts as clearing house for latest information about phototypesetting.

(8.) Newsprint waste campaign is reported quarterly with respect to elimination of waste in the plant.

(9.) Cooperates with equipment manufacturers and suppliers.

(10.) Supervises annual ANPA Mechanical Conferences.

(11.) Fosters annual equipment and supplies exhibits held in connection with ANPA Mechanical Conferences.

People Can Be a *Plus Factor*

By WARREN G. WHEELER, JR.*

**Personnel Director, South Bend (Ind.) Tribune and President of Newspaper Personnel Relations Assoc. Abstract of address delivered before Great Lakes Mechanical Conference, Milwaukee, Wis., Jan. 1956.*

PART III.

Now that I've just finished telling you that gimmicks aren't half as important as attitudes let's look at another problem—one where gimmicks may help though the fundamental problem still is one of attitudes and a better understanding of what makes people tick. This is the matter of improved interdepartmental relationships.

As I understand this situation, it's simply a matter of being able—whenever the paper is late or something goes wrong—to prove that the other fellow's department is to blame and then getting him to agree with you.

Forgetting that aspect of this problem which involves the business of understanding people better—which we have touched on already—let's concentrate on the other side of the picture which is primarily a matter of education.

Through your daily contacts with other departments you people get some appreciation of the problems in other departments. Meetings such as this you are attending now soon make you realize that your own department doesn't have exclusive rights on production troubles.

In addition to these casual contacts with other departments, some papers feel it is helpful to have regular meetings of mechanical department executives to discuss mutual problems and future plans. In our case, we hold the meetings weekly and include the managing editor and advertising director. We feel the meetings tend to help in several ways:

(1.) Things can be discussed without the immediate pressure of daily deadlines.

(2.) Everybody involved gets a chance to be heard; decisions aren't made without the knowledge of every department concerned.

(3.) We all get a better understanding of the other fellows many headaches.

(4.) When we're face to face with everyone concerned we tend to look for solutions to problems rather than excuses or someone to blame.

(5.) We get better solutions quicker because we have the benefit of everybody's thinking.

Such meetings are no cure-all, but they do help.

Some papers start working toward this atmosphere of broader understanding between departments well before a man reaches department head level. The St. Petersburg *Times* calls its program a College of Newspaper Knowledge. Such training is conducted for all supervisors, assistants and people in responsible positions. People are rotated between departments. They spend several weeks or a month in various departments until they have a pretty good working knowledge of each department and its problems. Such a program takes time but publishers using it feel it pays off to develop this broader understanding of the other fellows troubles and a better picture of the overall operation of their particular newspaper plant.

This is the first of a group of new tractor trailers to be put into service by the William C. Herrick Ink Co., Inc. This equipment is used to haul up to 40,000 lbs. of news ink with metered deliveries at the rate of 125 gal. per min.

Another approach can be made through such devices as the INO's pressroom training program. One version of this is designed to give news and advertising people a working knowledge of pressroom operation and the difficulties involved in handling various types of runs.

Everyone in each of our departments needs a wider knowledge of our overall operation. Programs similar to the INO's might be worked out whereby movies could be used to show every body in our plants what goes on in other departments—that it takes each and everyone of us working together to produce a newspaper—that it takes a daily miracle of timing and cooperation to place a newspaper on the public's doorstep day in and day out, year after year.

Another technique which helps educate employes is the use of a junior management board as is done in Winston-Salem. Representatives are selected from each department to consider suggestions for improved operations in all departments. A by-product of this, in addition to the suggestions adopted, is that in discussing proposed improvements the people on the board learn a lot about the operating problems of other departments.

Plant tours also may help. So can the right kind of employe handbooks or good employe newspapers. But they are only beginnings.

We cannot expect our employees to love their neighbors in the next department unless we do something to encourage them to do so. A lot of their attitude toward other departments will depend not only on what they know about the other department but what you tell them and how you yourself get along with other departments, what you say and do in your relations with the guy next door.

(To Be Concluded)

Honors National Geographic

In recognition of consistent and extensive use of four-color letterpress printing in its magazine for the last 50 years, the Intl. Assoc. of Electrotypers & Stereotypers, Inc., presented the first Magazine Letterpress Award to the National Geographic Society, Apr. 25 in New York, N. Y., at Hotel New Yorker. Dr. Thomas W. McKnew of Washington, D. C., vice president and secretary of the Society, accepted the Award for the *National Geographic Magazine* from Elmer M. Schwartz, Chicago, president of the Electrotypers' association.

In accepting the award, a handsome wood-mounted electrotype plaque, Dr. McKnew said in part: "You know our record for pioneering the use of color printing. I would like to add that as the use of color letterpress printing has gone up in quantity, letterpress has likewise risen in the quality of faithfully reproducing the original subject.

"The president of our Society and editor of *National Geographic Magazine*, Dr. John Oliver LaGorce, has pointed out on many occasions that the success of our magazine is not attributed to its editorial and photographic content alone, important as it is, but rather because all of the component parts function as a smooth running team. There are many strong links that bind the *Geographic* together.

"One such link is a member of your association, Charles E. Murray, president of Potomac Electrotype Co., Inc., Washington, D. C.

"Another important link is our fine printer, Judd & Detweiler, Inc., Washington, D. C., who has printed the magazine since 1891. Still other links are our photoengravers, Beck Engraving Co., Philadelphia, and Graphic Color Plate, Stamford, Conn. . . . we acknowledge the high quality paper furnished us by Champion-International Co. *Geographic* uses 65 lb. double-coated paper made specially to our specifications."

Presentation of the Award took place during the Intl. Assoc. of Electrotypers & Stereotypers, Inc. meeting held April 25 and 26. At the opening session IAE&S President Schwartz said the time had come for all segments of the letterpress industry to cooperate in an aggressive educational and sales promotion program. Progress of the electrotyping industry showed employment up 15% and sales up 9% nationally over a year ago, it was reported.

The 237 registered members and guests were addressed by a number of speakers. Subjects consisted of *Inside Story of a Pictorial Package that Tripled Sales;* a public relations report by Chairman Carl Becker of Milwaukee, Wis.; a report from the electrotypers letterpress committee by Harold A. Fleig of Chicago; a talk on letterpress printing by Augustus F. Oakes, president of Charles Francis Press, Inc., New York, N. Y., and others.

I. D. Robbins, author of *The Present and Future of the Printing Processes,* summed up the task of the electrotypers to promote letterpress printing as follows: (1) Enlist photoengravers and letterpress printers in advancing the cause of letterpress printing; (2) Strengthen ties with the major associations in the printing field; (3) Volunteer to serve on technical committees of the letterpress industry and contribute to their work; (4) Provide technical leadership and speakers for meetings that will point the way to better methods for better use of electrotypers, and (5) Create the feeling that major research is underway and that letterpress is not frozen.

National Geographic Magazine's production team beamed as the Letterpress Award was presented to the National Geographic Society at the New York Conference of the Intl. Assoc. of Electrotypers & Stereotypers, Inc., April 2 and 26. Left to right are: Elmer M. Schwartz of Chicago, president of the IAES; Kenneth A. Williams and Charles E. Murray of the Potomac Electrotype Co., Inc., Washington, D. C.; Dr. Thomas W. McKnew, vice president and secretary of the National Geographic Society; John Davis, jr. and James Shields of Judd & Detweiler, Washington printers of the *Geographic* since 1891.

Baum Reports on Battle

Russell Ernest Baum, president of Russell Ernest Baum, Inc., reports he has given testimony before the committee on postoffice and civil service of the House of Representatives. This is part of Baum's battle against an increase in first class postal cost. Baum had sent letters to 40,000 persons in the Graphic Arts industry asking for comments on this issue. As of May 2, about 1000 replies were received — 90% opposed to the increase, says Baum. Most of this evidence has been turned over to the committee, but Baum urges individuals in the Graphic Arts to write to individual members of the committee expressing opposition to the suggested increase in first class postage.

"I hope you will forgive sentimentality when I mention I almost felt Ben Franklin's hand on my shoulder and the warmth of his benign smile when I stood before that committee, begging that America would in the future, as in the past, be the land of opportunity for the small man who had to have reasonable postage rates to advertise, as he hadn't the capital to use radio, television and other big-time advertising," Baum said.

Members of the House Postoffice Committee include Honorable Tom Murray, chairman; and Honorable James H. Morrison, George M. Rhodes, John Dowdy, John E. Moss, jr., Gracie Pfost, T. James Tumulty, Chet Holifield, Robert J. Corbett, H. R. Gross, Albert W. Cretella, Joel T. Broyhill, John E. Henderson, James C. Davis, John Lesinski, jr., Hugh Q. Alexander, Edward J. Robeson, jr., Dante B. Fascell, Joe M. Kilgore, Edward H. Rees, Katharine St. George, Cecil M. Harden, Charles S. Gubser, Elford A. Cederberg, and August E. Johansen.

ALL DALLAS PAPERS INVITE VISITORS

An invitation has been extended to ANPA Mechanical Conference executives to visit the plants of Dallas newspaper plants while in the city.

The three papers extending the invitation are the Dallas *Morning News,* Dallas *Times-Herald* and Dallas *Wall Street Journal.*

Business management, production and mechanical executives are welcome to visit the plants at their convenience.

Paisley Expands on West Coast— Paisley Products, Inc., manufacturer of adhesives, paint, textile and chemical compounds, has acquired Dilco Products, Inc., Redwood City, Calif.

Variable Response Unit

Improves and/or corrects tonal qualities in copy electronically when making halftone engravings

By S. W. LEVINE and R. N. HOTCHKISS*

**Fairchild Graphic Equipment, Inc., Jamaica 1, N. Y.*

Electronic engraving of halftone plates became a reality when Fairchild Camera and Instrument Corporation introduced the Scan-A-Graver in 1947. This method of electronic engraving has made available to the smaller town newspapers a quick and economical means of obtaining halftone plates. Since the introduction of the Scan-A-Graver, approx. 70% of the newspaper establishments in the country are using Fairchild electronic engravings for halftone printing.

Improvements in electronic engraving techniques have been such that they have been applied to fine screen printing. A machine is now being introduced to the commercial printing field in the form of the Scan-A-Sizer—an electronic engraver which automatically enlarges and reduces. The latest addition to the electronic engraving line is the Fairchild Variable Response Unit, shown in Fig. 1. This device is a "black box" which can be attached to the Scan-A-Graver or Scan-A-Sizer. The operator has at his fingertips almost infinite control over the reproduction values of tones appearing in the halftone plate. By its use he can partially correct the engraving for many of the problems involved in platemaking, such as poor density values in the original copy, type of ink and paper being used, condition of the press and stereotyping problems. If the piece of copy from which the plate is to be made is such that points of interest in the highlight regions have poor separation, then in the reproduction process the operator can modify the density values so that the detail in the highlight regions becomes more pronounced. This is accomplished in the Variable Response Unit by judicious selection of the desired tonal reproduction curve. If the primary points of interest are in the dark or high density regions in the original

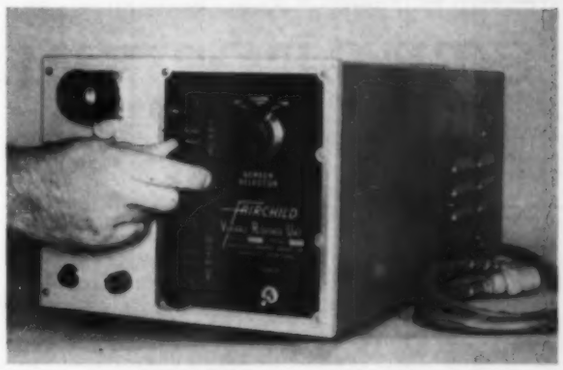


Fig. 1—Fairchild Variable Response Unit is designed to operate in conjunction with the Scan-A-Graver. A viewport permits visual control of the settings of value in the Variable Response Unit. So flat copy can be contrasted in the printing plate. The unit can be made to function in other ways to improve printing qualities of the final halftone. All halftones in this article were printed from electrotypes made from Fairchild engravings.

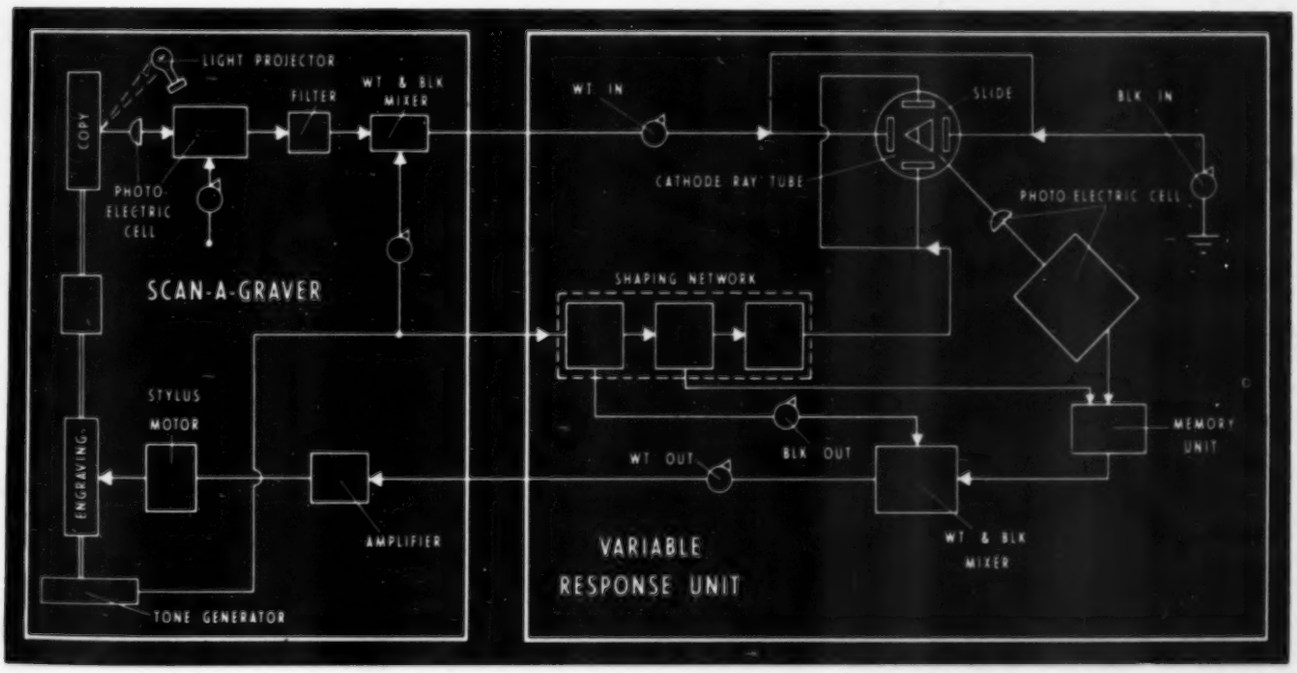
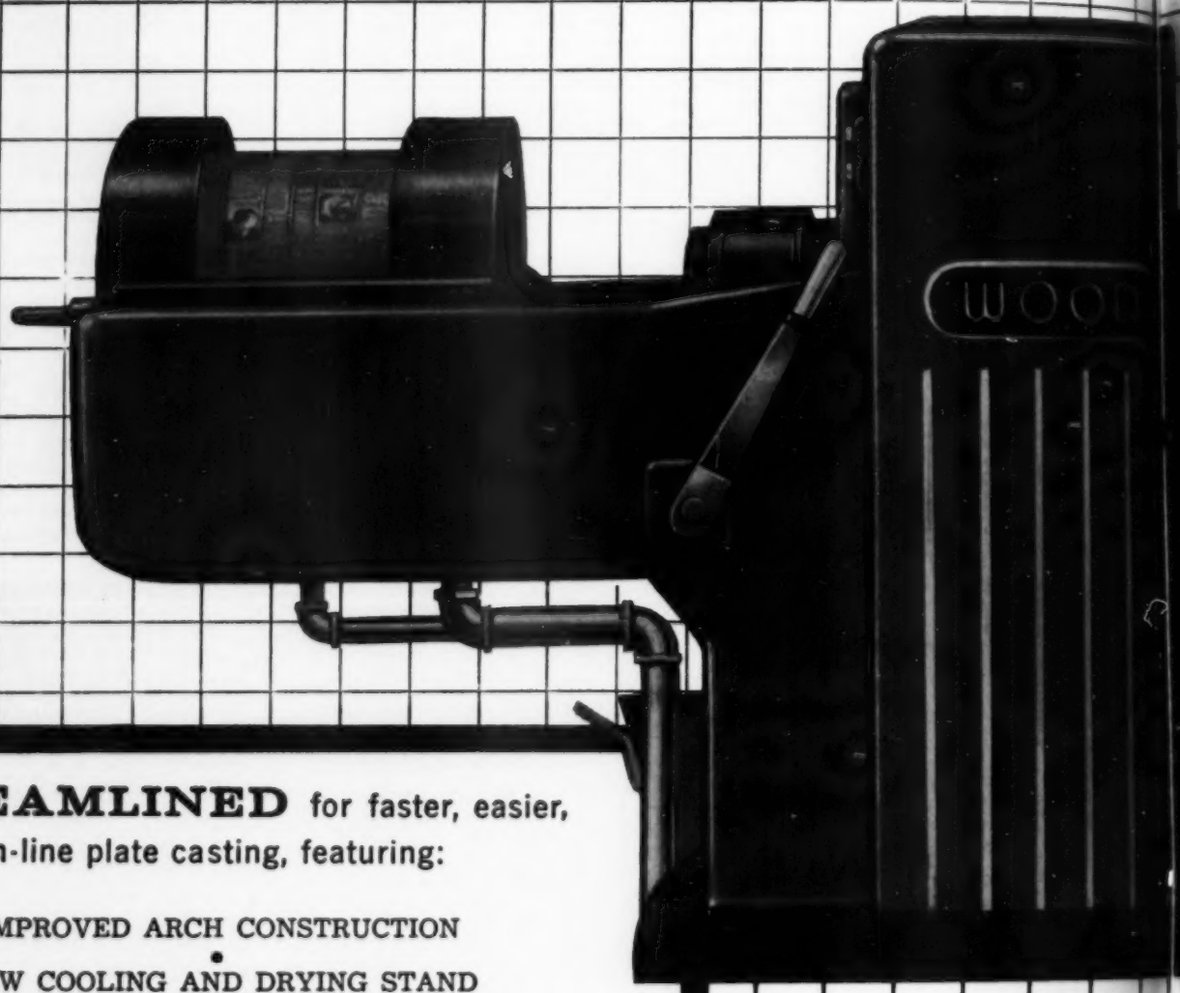


Fig. 2—In this diagram is shown the hookup of the Variable Response Unit with Fairchild Scan-A-Graver. The right-hand block represents the Variable Response Unit. The left-hand block represents the conventional Scan-A-Graver.

AGAIN...

WOOD PERFECTS A NEW, IMPROVED STEREOTYPE MACHINE



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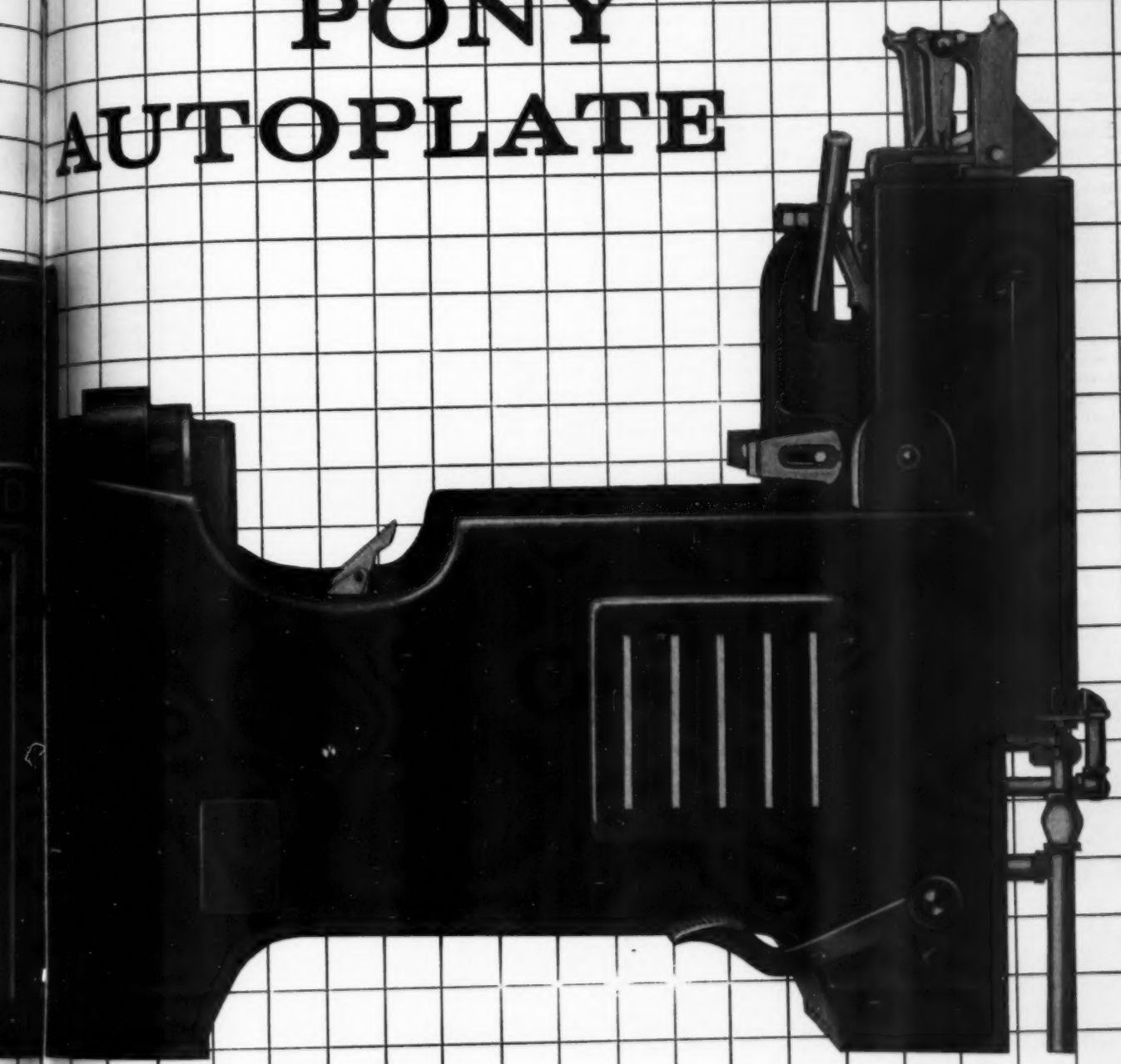

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copy, this may be brought out more clearly in the reproduction by selection of a different tonal reproduction curve. Almost any type of density correction can be made by judicious selection of the required reproduction curve.

What the Variable Response Unit accomplishes may be better understood by reference to the familiar H and D curve of photographic material. This characteristic curve of photosensitive materials gives the relationship between the logarithm of exposure and resultant density. This curve has a "toe" in the low density range, a straight line relationship over the useful exposure range, and a "shoulder" in the high density range. Most photographic work is done on the straight line portion of the curve. Some limited non-linear effects may be obtained by taking advantage of the non-linear "toe" and "shoulder." This is seldom used because of the high degree of skill and good judgment required in using this part of the curve. The Variable Response Unit is a device which controls the shape of the H and D curve in the electronic engraving process. The desired equivalent of the H and D curve is inserted into the machine

Fig. 3—By inserting an opaque mask with a cutout in the form of the desired reproduction curve, the light output of the flying spot scanner is modified as desired. This gives the required control over the density of reproduction in the engraved plate. These masks are employed to produce the gray scales shown in Fig. 4.

and this will be imposed in the reproduction process. Any required H and D curve may be so introduced.

The possibility of performing such corrections automatically in producing an engraving from original copy is inherent in the electronic engraving system. In the Scan-A-Graver, an original piece of copy is scanned dot-by-dot with a light sensitive pickup and an equivalent dot density is reproduced simultaneously in the engraved plate. Thus, light pulses whose intensity values are a function of the original copy density, are converted to electrical impulses and these in turn actuate a stylus tip which does the engraving. The Variable Response Unit is inserted in this optical, electronic engraving chain to modify the relationship of input to output pulses in the desired manner. The Variable Response Unit in this respect is a computer in which a specific characteristic curve is inserted to modify the original copy to the final desired engraving.

In order to make the Variable Response Unit completely versatile in regard to the flexibility of tonal response of curves, the electrical scanning information is converted to lighting information and then re-converted to electrical information. This is accomplished by means of a flying spot scanning tube very similar to a television tube. The basic means of operation is indicated in Fig. 2. This diagram indicates the manner in which the Variable Response Unit is inserted into the standard Scan-A-Graver or Scan-A-Sizer circuit. The right hand block represents the Variable Response Unit and the left hand block represents the conventional Scan-A-Graver. In the Scan-A-Graver, the original copy is placed on the copy cylinder, with the copy illuminated by a

(a) Illustrated above is a normal reproduction of a conventional tone scale.

(b) An expansion of the blacks.

(c) An expansion of the whites.

(d) An expansion of the middletones.

(e) An example made from a special effect slide or mask.

Fig. 4—This series of gray scales indicates the flexibility of control in platemaking on the Fairchild Scan-A-Graver in conjunction with the use of masks or slides.

Fig. 5—Halftone produced without use of the Variable Response Unit. This was produced from a contrasty piece of copy in which the highlights were over exposed.

Fig. 6—Mask No. 3 (shown in Fig. 3) was used during the making of this halftone. Note the tone expansion in the highlight regions.

Figs. 5 and 6—Demonstration of the corrective action of "expanded whites."

light source. A photoelectric cell picks up the light reflected from a small dot area. This electrical energy, representing the original copy density, passes through the Scan-A-Graver electronics to the cathode ray tube in the Variable Response Unit. This signal is applied to the horizontal deflection plates in the flying spot scanner and a constant amplitude signal of the same frequency is applied to the vertical plates. This forms a light emitting line on the face of the cathode ray tube and its position is related to the amplitude of the incoming signal from the original copy. A photoelectric cell picks up the light from the cathode ray tube, converting the light energy back into electrical energy and this information then feeds into the remaining part of the Scan-A-Graver electronics to engrave the plastic printing plate. By inserting an opaque mask with a cut-out in the form of the desired reproduction curve, the light output of the flying spot scanner is modified as desired. This gives the required control over the density of reproduction in the engraved plate. Such cut-outs of opaque masks are indicated in Fig. 3. The mask is a metal slide which may be inserted in front of the cathode ray tube much in the same manner as a slide is inserted into a projector.

The flexibility of control in platemaking is illustrated by the series of gray scales indicated in Fig. 4. Gray scale No. 1 indicates the tone reproduction which is obtained in the conventional engraving of a 12 step Eastman gray scale. As may be noted, much of the information in the dark end of

(*Continued on Page* 128)

Kingsport Press Adapts Maintenance Idea—The Kingsport Press, Kingsport, Tenn., has adapted a maintenance idea from automobile service stations, says Lillian Stemp, Chicago safety engineer. Kingsport Press operates 28 electric power trucks which are serviced at least once a month. By providing a grease and repair pit in the electrical shop for these trucks as shown in the accompanying picture the servicing time for greasing has been reduced by more than 50%. Bob Hicks, of Kingsport's electrical shop, describes the pit as 7 ft. by 3 ft. by 28 in. It is equipped with a trouble light, bumper guard, and steps for easy access. When the pit is not in use, the area is made available for general work by covering the pit with a piece of ⅜ in. boiler plate, reinforced with 2-in. angle iron. Hicks has trained more than 90 employees from all departments to operate these trucks. Each authorized operator receives a badge denoting, by color, which of the three types of trucks he has been trained to operate. Bob explains that most of the electric trucks are either of the power type used for the heavier loads or the hand-operated trucks. There is also a scoop truck for transporting coal into the boiler room and loading it into the stoker hoppers. Another idea adapted from service stations is that of the air hose reel, useful in press and composing departments.

Handling and Storing PAPER In Printing Plant

By WILLIAM H. BUREAU*
Butler Paper Corporations, Chicago

PART II.

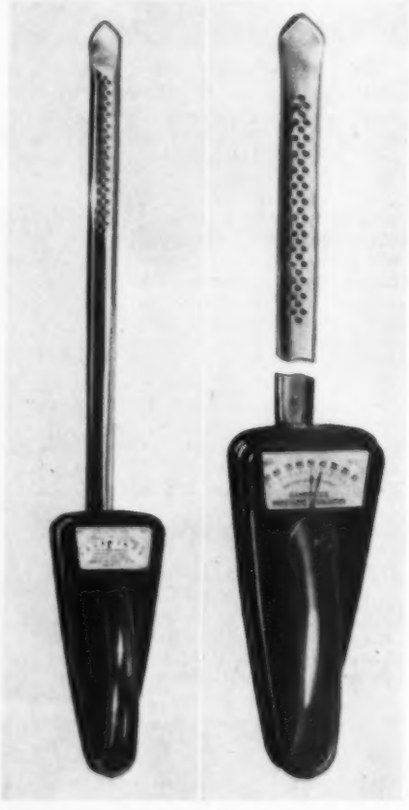
In printing multi-color jobs one color at a time the ideal situation is to have the paper in balance with the pressroom atmosphere before starting. Where close register on large sheet sizes is involved, it may be necessary to season the particular paper beforehand. But again, during the time prevailing between the printing of each individual color, it is always good judgment to protect the pile of paper by wrapping and avoiding any chance of distortion that might develop. This is particularly important when the paper is run in a non-conditioned plant or where it is suspected the paper is not in moisture balance in a conditioned plant. The ideal situation would be to isolate the printed pile completely from all contact with all pressroom air, but this is hardly practical.

A moisture vapor barrier wrapper is commonly made by laminating two papers with asphalt. You can identify such a wrapper by tearing it and observing the dark colored middle layer of asphalt. Some manufacturers use two wrappers, the inner one being a wax treated wrapper and the outer one serving as additional protection to the paper. Skids often have two layers of asphalt laminated wrappers.

The two common types of sheet distortion are wavy edges and the so called tight edges. Wavy edges are caused by moisture absorption at the edges *only* causing the excess paper due to fiber swelling to form a wave. Wavy edges once they are formed can often be eliminated by hanging the paper to season thoroughly all areas of the sheet or by drying out the edges with the use of heat lamps, by blowing hot air on the edges or keeping the paper in a dry room. However, if the waviness is quite pronounced and if the paper is left in this condition, the distortion may become permanently set in the paper and never be made to leave again. This is particularly the case for heavy weight papers such as board, bristol, blanks, etc. Consequently, it is best to prevent the occurrence of wavy edges in the first place.

Puckers or Bulges

The reverse condition whereby the edges dry out and tighten causes an excess of paper in the center or inner portion of the sheet area which shows up as puckers or bulges. The excess of paper can usually be detected by sighting across the sheet or feeling the puckered condition by running the hands over the sheets. The best possible cure for the second condition is hanging the paper. This equalizes moisture throughout the sheet and will remove this distortion unless it has progressed too far or too long. Wavy edges can cause actual press wrinkles to form due to the ironing out the sheet gets particularly on an offset press. Either type of distortion can also be troublesome when run on a large four color press because it can produce slurs, 'doubles', etc., due to the 'fanning' out movement of the sheet between each color unit. Consequently, all the precautions discussed above regarding the storage and handling of the paper should be carried out whether the paper is run single color or multicolor.



(Photos courtesy Cambridge Instrument Co.)

Fig. 2.—At left is shown Cambridge Paper Hygroscope.

Fig. 3.—At right is shown Cambridge Printers' Moisture Indicator.

Paper stored in dry non-humidified rooms at high temperatures during the winter months can be subjected to very low humidity. Piles of paper left open under such conditions lose moisture at the edges and can become distorted and, in the case of groundwood content paper, suffer loss of strength particularly. The writer recalls one incident where a light weight machine coated enamel was stored in open piles in a very dry basement and in the proximity of steampipes. The edges of the paper had lost so much moisture that the sheets were tearing at the grippers and, furthermore, the piles were actually bulging in the center due to the tightening at the edges. The paper had lost approximately 30% of its original tearing strength. Original skids of the same paper standing nearby which had not had the wrappers disturbed showed loss of moisture but not nearly as much. The lesson to be learned here is that paper should not be subjected to such drastic storage conditions of dry-

Auto ads
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But will you PROFIT from this increase?

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For display composition that cuts costs and sends profits up, look at the sample shown below in actual size. It was set the modern, economical way on the new Rangemaster Model 35 Linotype.

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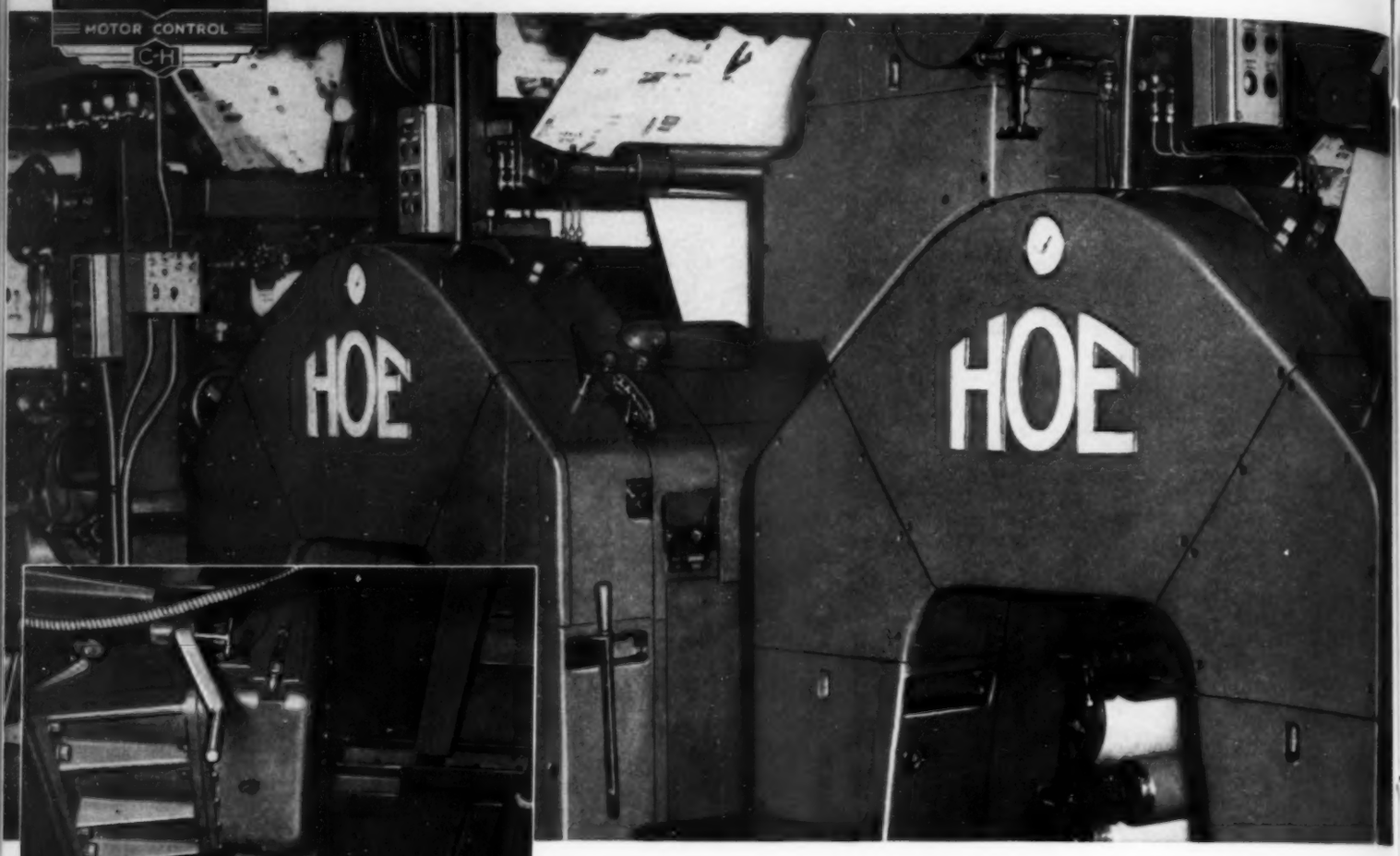

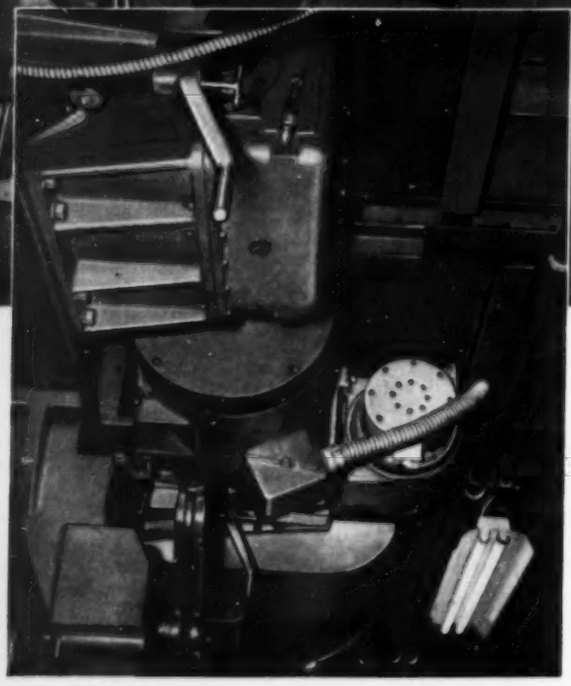

Cutler-Hammer Unit Control System for

WICHITA (KANSAS) EAGLE

R. Hoe & Company press, 4 units and one folder at present. Printing capacity, 45,000 copies per hour. Two additional press units with Cutler-Hammer Control Units are now being added.

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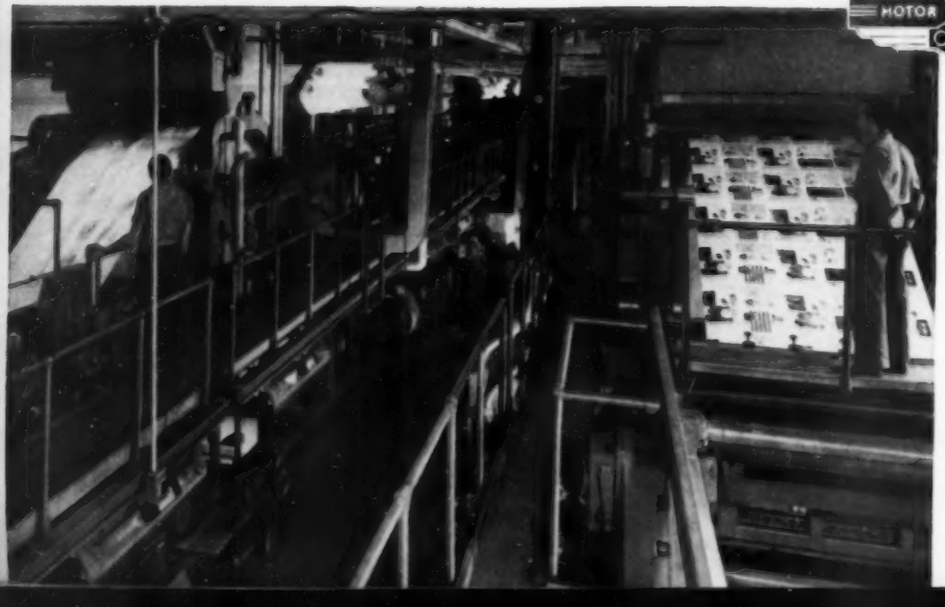

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WEB BREAK DETECTORS

Stop press quickly if web breaks. Web can be rethreaded without latching detectors. Easy to mount.

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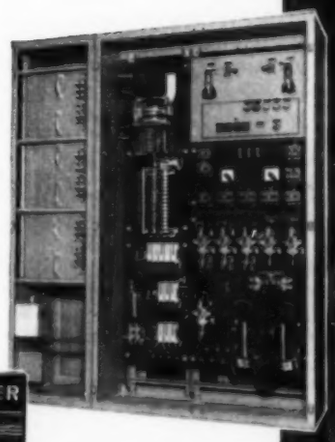
CUTLER-HAMMER
WEB SEVERING DEVICE

A Cutler-Hammer "original" that has resulted in greater total savings than any other single accessory. It instantly slashes broken web close to impression and guards against destructive wrap-arounds and costly delays—resets automatically.



Cutler-Hammer Electronic Control for single motor drive on Goss Dek-A-Tube press in plant of

MADISONVILLE, KY., MESSENGER

"The whole setup is running smoothly, and we are looking forward to many years of satisfactory operation," says Edgar Arnold, Jr., Assistant Editor.

CUTLER-HAMMER
MOTOR CONTROL
C-H

ness and most certainly never left in open piles.

Roll Paper Just as Susceptible

What has been said about paper in sheet form applies to rolls as well. It is often thought paper in rolls will take more abuse and therefore, precaution with respect to storage and wrapper protection are not very important. Such isn't the case. Paper fibers, whether they be at the edge of sheets or the ends of rolls, are equally susceptible to moisture change and will produce just as much distortion in either case. Waviness at ends of rolls can and does develop. Furthermore, rolls stored on end on a damp floor will develop a tight end and lead to a complication that doesn't happen with sheets. Likewise, if the ends lose moisture, the even hardness of the rolls that existed when the paper was rewound at the manufacturer will be lost. Soft ends develop. Hard or soft ends cause uneven draws or tension when fed to roll presses resulting in a headache for the press operator.

Checking for Moisture Balance

In non-conditioned pressrooms and particularly when paper is to be run single color on a close register multicolor job, it is necessary to know if the paper in question is in moisture balance with prevailing conditions or how much it may be out of balance. In conditioned plants where paper is ordered to be in equilibrium with a specified relative humidity, it is desirable to check paper deliveries to see if they are in moisture balance upon arrival. The direct manner of measurement is the use of the Paper Hygroscope developed by the Lithographic Technical Foundation in 1931 (see Fig. 2).

The other instrument is the Printers' Moisture Indicator, (see Fig. 3). Both instruments operate on the same principle. The tips of these instruments are inserted into a pile of paper as shown in Fig. 4. In checking an unopened skid of paper, it is not necessary to remove the wrappers, but rather cut a slit in the wrapper with a knife just sufficient for the instrument blade. It is usually necessary to break the skid bands to relieve the pressure on the pile so as to allow the insertion of the instrument without forcing it excessively and risking damage to it. These instruments have proved very helpful in diagnosing paper troubles attributed to moisture and preventing trouble beforehand. However, discrepancies among instruments were observed as well as readings reported by paper manufacturers and those by the printer.

Fig. 4.—Testing Paper as received in the Pressroom with Cambridge Paper Hygroscope.

(Photo courtesy Cambridge Instrument Co.)

The Lithographic Technical Foundation, about two years ago, reported the results of a very interesting study of instrument errors in using the paper hygroscope[1]. From this research work there was developed a correction chart that compensates for errors that occur when the room and paper are not at the same temperature as well as other causes of inconsistency of readings. Use of this chart gives very accurate and consistent readings. If you use one of these instruments and have not read this report, it will be well worth your effort to become familiar with this reference.

If you have instruments for measuring relative humidity, make sure they are giving the correct reading. Some instruments, particularly the stationery wet and dry bulb that fastens to a wall do not give true readings, unless they are in a path of circulating air. The writer has seen cases where the true relative humidity was much higher than what it was thought to be. There are now available accurate direct reading instruments for relative humidity. The most accurate and always reliable way of determining relative humidity is by the use of the sling psychrometer (Fig. 5). The wet and dry bulb principle is employed in this instrument. Because the thermometers are whirled rapidly through the air, accurate and rapid determinations are given. The wet and dry bulb readings obtained are translated into percent relative humidity by using the relative humidity tables or a hygrometric slide rule. The slide rule is much more convenient to use and there is less chance of errors as well. This instrument is invaluable in calibrating all other relative humidity reading instruments.

Ordering Paper for Conditioned and Non-conditioned Plants

When ordering paper to arrive in equilibrium with specified relative humidity and temperature for a conditioned plant, it is best not to specify a definite moisture content, since different papers do not all have the same equilibrium moisture content for a given relative humidity. Rather, it should be specified that the paper is to be in moisture equilibrium with the relative humidity and temperature maintained in your plant, leaving the subject of the actual moisture content up to the particular manufacturer.

If your plant is non-conditioned, then a precise figure for moisture

(*Continued on Page* 128)

Fig. 5.—Wet and Dry Bulb Sling Psychrometer.

(Photo courtesy Taylor Instrument Co.)

[1]Reference: See *'Improved Accuracy with the Paper Hygroscope,'* Research Progress, No. 31, July 1954

OUTMODED MACHINES ARE REAL THREAT

(This statement appeared in the April 23, 1956 issue of the Houston (Tex.) Graphic Arts Assoc. Bulletin.)

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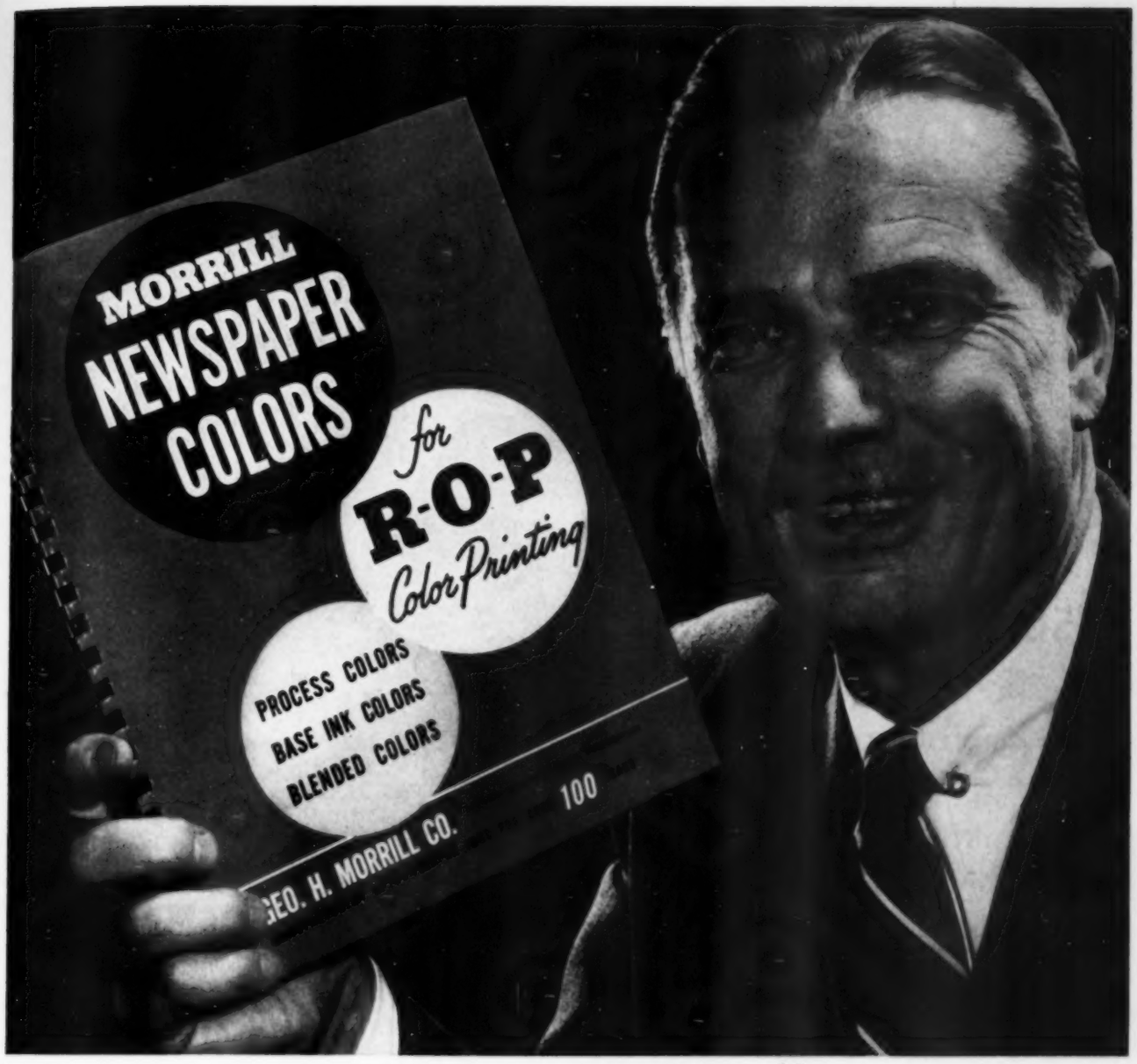

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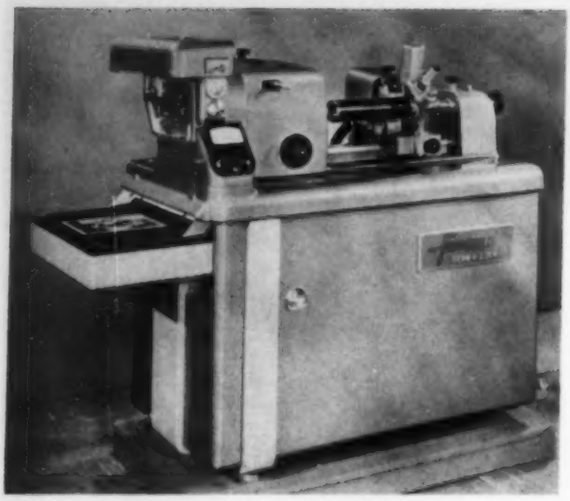


Fig. 20—Fairchild Graphic Equipment, Inc.'s photoelectric plastic engraving machine (Scan-A-Graver) with Scan-A-Sizer (left) for making the engraving larger or smaller than original copy.

Uses of Electronics In Graphic Arts Industry

By FRANCIS A. WESTBROOK

PART V.— ELECTRONIC ENGRAVING

One of the most important electronic developments in the last 10 years affecting the Graphic Arts industry is the Scan-A-Graver Electronic Engraver, made by Fairchild Graphic Equipment, Inc., Jamaica, N. Y., followed in 1953 by the Scan-A-Sizer, and the Variable Response Unit (VRU) which is used as an accessory to both of the others, plus additional still more recent devices to improve and modify the original equipment.

The making of electronic engravings is now accepted by more than 5000 newspaper publishers and printers. It has enabled them to cater to the public demand for pictures. A large majority of the smaller daily and weekly newspapers use their Scan-A-Gravers to produce halftone plates.

The latest standard model Scan-A-Graver with 65 and 85 screens produces a maximum size engraving of 8 in. by 10 in. and operates at the following speeds over the 8 in. depth (surface):

65 screen, 10 in. 27.5 min.
85 screen, 10 in. 36 min.

It is supplied with stroboscopic microscope, waste container, storage chest and standard accessories. Its size is: Length 66½ in., width 25 in., height 48½ in., weight 870 lbs. It operates on 110 v., 60 cy. current and consumes 950 w.

This machine comprises a copy cylinder, which holds the drawing or photograph to be copied, the scanning head with the photoelectric cell and light projector, the engraving cylinder which holds the engraving material and the engraving head with the heated stylus and stylus motor. Controls are in the housing between the two cylinders and the amplifiers and other electronic equipment are in the center section of the cabinet.

Scan-A-Graver Operation

Operation of the machine is as follows: With the two cylinders revolving on one shaft a pin-point of light is projected on the photograph. As this light is reflected back to the scanner proportionately to the tonal densities of the picture the impulses generated in the photoelectric cell are amplified and transmitted to the engraving head where the stylus, heated to around 1200 deg. F. and mounted on the engraving head, penetrates into the plastic material on the engraving cylinder. These penetrations take place at the rate of 240 to 640 per sec., according to the halftone screen used. The depth of penetration is controlled to within 0.00025 in. Thus the stylus burns out small portions of the plate to varying depths determined by the strength of the impulses coming from the scanner. The unburned portion of the plate forms the halftone printing surface.

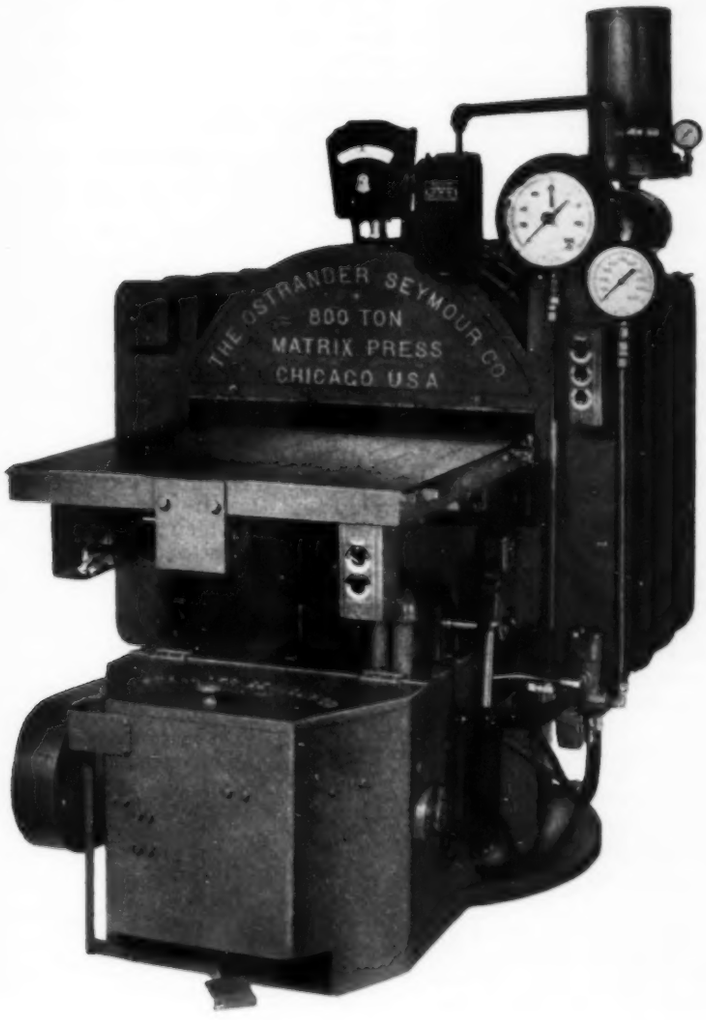
To produce a halftone engraving on the Scan-A-Graver it is only necessary to attach the picture to be reproduced on the copy cylinder and the plastic engraving material on the other cylinder and set the controls to suit the tonal intensities of the picture. There is a meter which indicates the level of the tone being cut and an additional check can be made with the stroboscopic microscope. This is especially useful in securing high quality reproduction with fine screen work. After the controls have been finally set the machine operates without attention until the engraving has been completed.

Engravings can be mounted on flat wood or metal, or can be attached to curved stereotypes. Wash and pencil drawings can be reproduced with accuracy.

Table Top Model

A small table top Scan-A-Graver known as the Cadet, is also available for making 6 in. by 8 in. reproductions for smaller newspapers, to enable them to use more

Something NEW *Has Been Added . . .*



OSTRANDER'S 800 ton Automatic Matrix Press produces baked newspaper mats with greater and with a higher fidelity of reproduction.

Other features this press has is that it is so designed that, by the "flick of a switch" it is available for the production of plastic printing plates.

For better service and quality in:

PRESSURE CAST ELECTROTYPES OR NICKELTYPES (molded in lead—plastic or teneplate)

DIRECT PRESSURE MATS (tenanon packed mats, stereo or plastic plates)

Users of this equipment advise they obtain the finest possible reproduction for their customers.

The OSTRANDER Direct Pressure Matrix Press is easy and fast in operation, and though noted for quality, its efficiency makes it a profitable investment in the production plant.

An illustrated circular will be sent you upon request giving complete details in construction and performance. A copy of this circular will be mailed to you by writing to us at our plant.

***World's Largest Line of Stereotyping and Electrotyping Equipment* Since 1876!**

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pictures without incurring undue expense. In fact, many small papers have increased their circulation and profits with the help of the inexpensive but good illustrations which these machines have made possible.

The Scan-A-Sizer

Another electronic engraving machine has been developed by Fairchild known as the Scan-A-Sizer, Fig. 20, whereby the engraving may be made either larger or smaller than the original, directly without any photocopying or loss of time or quality. The savings which this makes possible hardly need stressing.

With this machine the picture, or whatever is to be reproduced, is placed on a shelf at left, as seen in Fig. 20, with the scanner in the head above. The original copy may be as large as 18 in. by 22½ in. and can be reduced four and a half times, or a small copy may be enlarged by a similar amount.

A pivoted mirror is used for scanning back and forth from side to side of the copy and as this progresses the shelf on which the copy rests is drawn back automatically into the machine until the scanning is complete. Light reflections from the highlight and shadow sections of the original are changed by the photelectric cell and amplification into enough energy for a vibrating motor to direct the stylus in cutting craters in the plastic plate, somewhat similarly to the Scan-A-Graver. Enlarging and reducing controls are located above the front panel. These can, if desired, be adjusted so as to produce a distorted reproduction.

The Standard Scan-A-Sizer is fitted with two interchangeable cylinders, one of which is for the standard 8 in. by 10 in. engraving and the other for engraving of a maximum size of 13⅛ in. by 16½ in., which is equivalent to a tabloid newspaper page. It is about 50% faster than the Scan-A-Graver, it being possible to make an 8 in. by 10 in. plate in 24 min. Engravings with 120 screen may be made by adding a simple set of controls.

Fig. 21—Fairchild Graphic Equipment Variable Response Unit by means of which the operator of a Scan-A-Graver can make adjustments for tonal changes in the highlight range.

At present only the first of 10 pilot Scan-A-Sizers is in service at the Williamsport (Pa.) *Sun-Gazette* papers. The others will be installed in types of plants to get a cross-sectional view of their practical usefulness and performance. Production will not be undertaken for at least a year.

Variable Response Unit

A new and important accessory for the Scan-A-Graver and Scan-A-Sizer has been developed which is designed to give a completely variable control over the electronic response of the engraver to the scanning of original copy, by which the operator is able to make adjustments for tonal changes in the highlight range. This is known as the Variable Response Unit (VRU), shown in Fig. 21. The knob in the center enables the operator to use eight different variables to control the electronic response of the Scan-A-Graver and Scan-A-Sizer. The eight variables have been selected to provide a complete range of characteristic photographic problems. The various applications for this device are still under laboratory study.

Of course, a considerable amount of skill on the part of the operator is called for if the best results are to be obtained, and so far nothing mechanical or electronic has been developed which can take its place. But the machines and equipment which have been considered make it possible for a good operator to do a better job in less time, and therefore at less expense.

Scan-A-Graver Tandem

Another recent Fairchild development is the Scan-A-Graver Tandem by which two identical halftones can be made simultaneously from one original. It is a linkage system for two standard Scan-A-Gravers with a modified electronic control box. Its advantage is that it speeds up halftone delivery to the press when printing two-up, and saves the making of duplicate prints when duplicate halftones are needed. The two parts of the machine can also be operated independently if desired.

(To Be Continued)

Iowa Mechanical Conference Held

A forum on newspaper problems at The Des Moines (Ia.) *Register and Tribune* featured the final day of the 2-day Iowa Newspaper Mechanical Conference held in Des Moines, Ia., April 14 and 15.

The delegates, who were guests of *the Register and Tribune,* toured the mechanical departments; were served a buffet luncheon; and took part in meetings devoted to engraving, composing, mailing and other newspaper production work. The conference came to an end with a banquet Sunday evening at Hotel Ft. Des Moines at which Frank Eyerly, managing editor of *the Register and Tribune,* was the speaker. George Searle, of that newspaper's retail advertising department was master of ceremonies.

William McCauley, composing room superintendent, Mason City (Ia.) *Globe-Gazette,* was elected president; and C. P. Lawrence, composing room superintendent, The Des Moines (Ia.) *Register and Tribune,* first vice president. Roger Hosper of the Iowa City (Ia.) *Press-Citizen* was named second vice-president; and Paul Kamler of the Clinton (Ia.) *Herald* was re-elected secretary-treasurer.

The conference was arranged by William G. Dorriss, *Register and Tribune* mechanical superintendent, and Charles Robinson of The *Register and Tribune* stereotype department.

To Form Roller Section

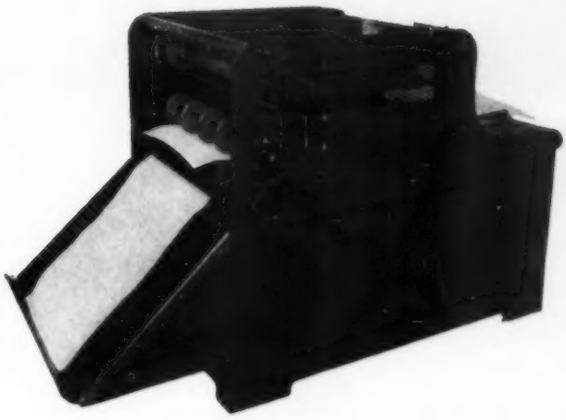
The Printing Industry of America, Inc.'s Board of Directors approved the establishment of a new section for the manufacturers of Printers Rollers, subject to a change in the group's by-laws. This action was taken at the spring meeting of PIA at the Greenbrier Hotel, White Sulphur Springs, W. Va., Apr. 3-6.

HENDRICKSON

Mooney Is Sponsored—Paul Hendrickson, executive vice president and general manager of Pennsylvania Electrotype Co., York, Pa., has been endorsed unanimously by the Fourth District and the York Club of Printing House Craftsmen for the Intl. Board of Governors. Paul, better known as "Mooney" by his many friends in the Craftsmen organization, is a past president of the York Club, chairman of that club's Guidance Committee, and has been Fourth District Representative for three consecutive terms.

AUTOMATIC INFRA-RED STEREOTYPE MATRIX PRE-TREATING MACHINE

CAN BE SEEN AT DALLAS (TEXAS) NEWS



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Attending the recent Inter-Society Color Council meeting in New York, N. Y., (from left to right): Walter Clark, Eastman Kodak Co.; Warren L. Rhodes and Herbert Phillips, Rochester Institute of Technology; Gordon Allen, J. F. Crosfield, Ltd., London, Eng.

Some **Color** *Problems in Graphic Arts Industry*

By WARREN L. RHODES*

**Head, Graphic Arts Research Div., Rochester (N. Y.) Institute of Technology.*

Color Problems in the Graphic Arts was the topic of the Annual Meeting of the Inter-Society Color Council. Representatives from the fields of printing, optics, illumination, paint and varnish, ink, artists, paper, and many other color specialists assembled in the Georgian Room of the Hotel Statler, New York, N. Y., April 5-6. They came to hear 13 speakers, experts in printing and related fields, express their views on color as it applies to printing.

This report of the Inter-Society Color Council meeting has been prepared in summary form. Important points of interest to the printing plant and platemaking executive readers of *Printing Equipment Engineer* have been included without personal reference to any of the speakers. The featured speaker at the dinner following the final session was Ralph M. Evans, Kodak Color Technology Div.

Dr. Marvin Rogers, R. R. Donnelley & Sons, set the stage for the speakers which followed by presenting a detailed survey of the color printing methods.

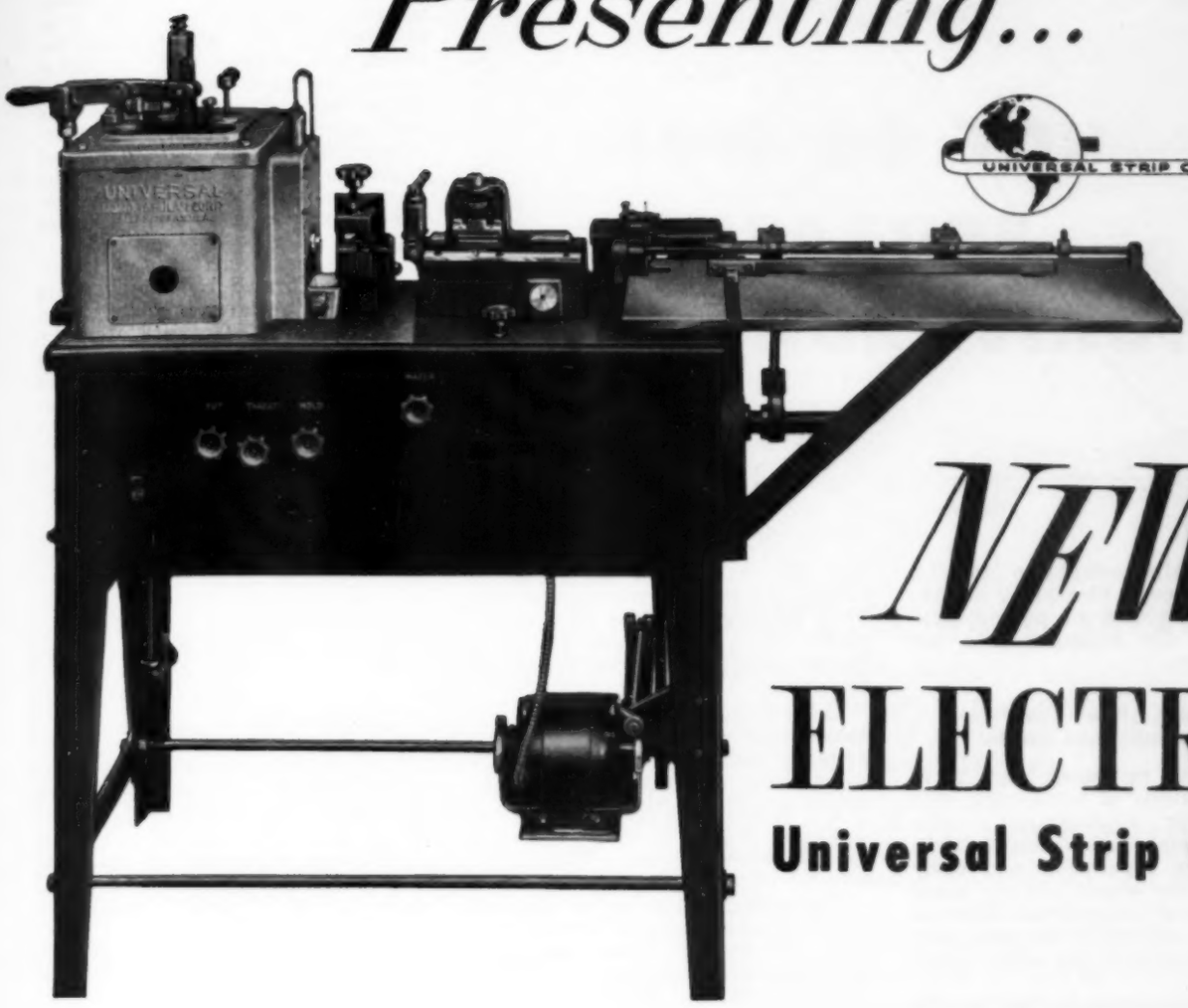
Process Comparison

In the letterpress process, printing is achieved by transferring ink from raised characters to paper. The letterpress process is often referred to as relief printing. The ink in the gravure process is carried below the surface of the plate in cells. The name given to this process is intaglio printing. Planographic is the name given to the lithographic process because the printing surface is neither raised as in letterpress nor recessed as in gravure. Water is used to prevent ink from attaching itself to the plate where it is not wanted. The term offset applies to the technique of transferring the plate image to a rubber cylinder and from the rubber cylinder to the paper.

The letterpress process has progressed from the screw presses and movable wooden type of the Gutenberg Press to the flatbed and rotary equipment of today. This process is well suited to the printing of fine detail and to the production of large circulation magazines and newspapers. The printing of large solids and unusual surfaces such as foil, polyethylene and acetate

In attendance at New York Inter-Society Color Council meeting were (left to right): Charles R. Conquergood, Canada Printing Ink Co., Toronto; Dr. Marvin C. Rogers, R. R. Donnelley & Sons Co., Chicago; Warren D. Reese, Macbeth Corporation, and F. E. Church of Time, Incorporated.

Presenting...



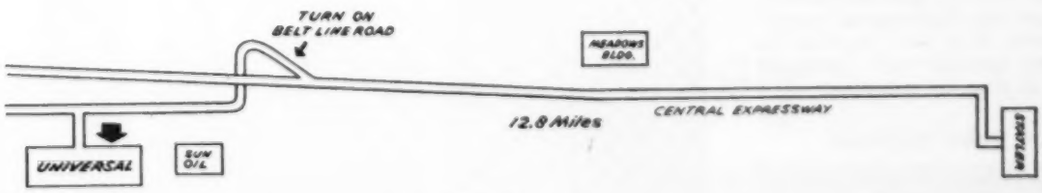
NEW ELECTRIC

Universal Strip Caster

While attending the ANPA Mechanical Conference, be sure to see our all-*new electric* strip caster at booth Number 84. This caster has been completely redesigned to give thermostatically controlled heat throughout and assure *perfect* casting temperatures. Makes 2-pt. leader hairline plus an endless variety of fancy rules and borders in 2- to 18-pt. sizes.

Height of the *new electric* Universal has been lowered to 36" to provide an ideal working area and end tiresome stooping.

We'll be looking for you at the Statler-Hilton, on June 4, 5 and 6. While here, we hope you'll visit our new plant at 715 N. Central Expressway, Richardson, Texas — Dallas County, and see these casters in actual operation. Just follow the arrows on the map.



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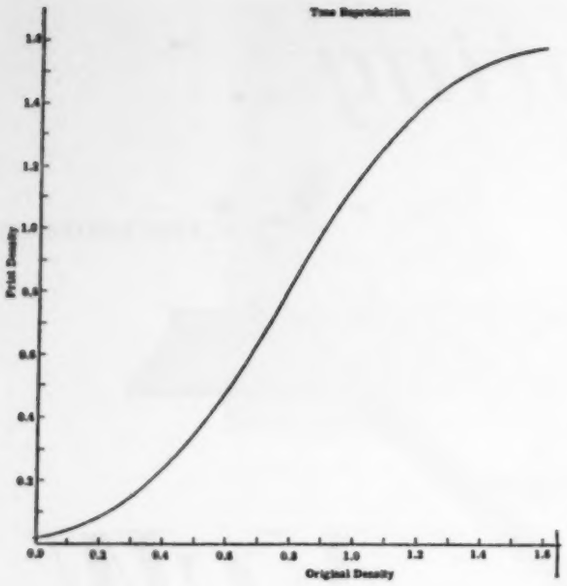


Fig. 1.

are especially adaptable to the gravure process. Flexibility of layout and simplicity of press makeready are the strong points for lithography.

Color Separation—Correction Essentially the Same

All of the processes start from the same kinds of color copy, artwork, color photographs, color transparencies and special effects copy. Color separation and color correction are essentially the same regardless of the process. Most of the color problems of any one process are shared by the other processes.

Color separation is the process of producing images which are the red, green and blue components of the copy. This is done by use of red, green, and blue filters. Photographic films are commonly used, but electronic methods can also be used to accomplish the desired results.

The red component is used to produce the blue (cyan) printing plate. The green component is used for the red (magenta) printer and the blue filter is used for the yellow printer.

Color correction is required because tone reproduction is seldom very good, because available inks are incorrect in hue and saturation, and because on high-speed multicolor presses it is not possible to print in the correct way. This last condition is due to trapping.

Other Color Problems

There are other factors which contribute to the problem of color printing. Methods of proofing do not give results equal to production. Register affects quality and is difficult to maintain. Color variation occurs during printing. Inks must be permanent and inexpensive. The art director has difficulty telling the printer what he wants. The illumination has a marked effect on the appearance of color. Paper can affect the printing, hence the color.

Color is important, but there are some other characteristics of color printing which are also important: permanence, rub resistance, perspiration proofness, odor, etc.

Hue—Saturation—Tone

The effectiveness of a printed result is determined by several factors. For example, tone reproduction has a marked effect on results. Objects may look different because they differ in one or more of three attributes: Hue, saturation, or tone. If one is red and the other blue, they differ in hue. If one is a dull or grayish color and the other a brilliant color, they differ in saturation. If one is dark and the other light, they differ in tone. White is a very light tone while black is a very dark tone.

How Tone is Measured

Tone is measured with a densitometer. The unit used for tone is density. The relationships between the original and its photomechanical print is called tone reproduction. Each process has its own typical tone reproduction characteristics, but all are capable of excellent results. In most of the processes, the typical tone reproduction curve is S shaped as in Fig. 1.

The tones in offset and letterpress are formed by dots varying in size but uniform in distribution and blackness. Gravure, on the other hand forms tones by varying the amount of ink printed from cells of uniform size and distribution. Photomicrographs of prints made by the three processes are shown in Fig. 2.

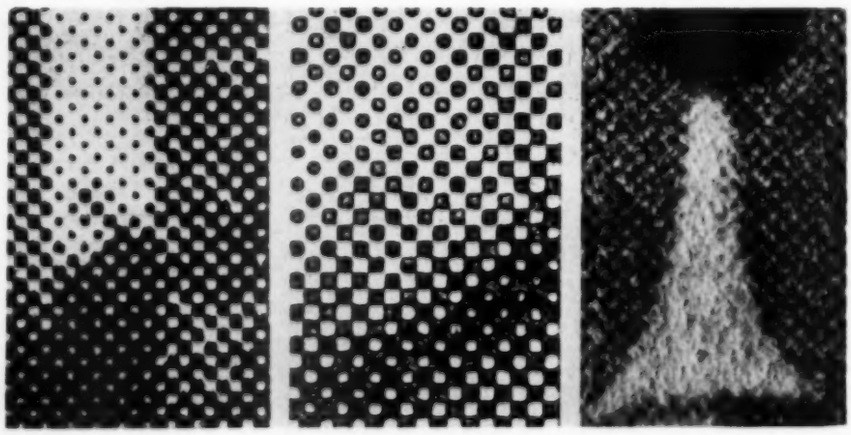
In color printing there are four tone reproduction curves to be considered: One for cyan (blue), one for magenta (red), one for yellow and one for black. These four curves must be right if the results are to be satisfactory. If not, hue, saturation and tone will all be incorrect.

Why Color Correction?

At the present time, all of our color reproductions require color correction. This correction is needed not only because of the inadequacies of the printing methods and materials but also because of the poor tone reproduction which is ordinarily obtained.

In its simplest form, color correction is said to be necessary because without it, reproductions do not come out as they should. At first it was assumed that the incorrect reflectance of the inks was the main reason why color correction was required.

Blue inks which are used for process reproduction should actually be blue-green. They should completely absorb red and completely reflect blue and green.



Offset Print *Letterpress Print* *Gravure Print*

Fig. 2.

HOW DO YOU MEASURE AN ENGRAVING?

If TIME is your yardstick

The Acme One-Bite Etcher is your best bet. Halftones — from negative to finished plate — etched in just 5 minutes, line or combination in 15-20 minutes. *And it's dependable, day after day!*

If QUALITY is your yardstick

The Acme One-Bite Etcher is your best bet. Halftones are etched to a depth of .006" and the etching process *automatically stops!* Line and combination plates etch sharp and clean to a depth of .040". Side walls pyramid and are automatically coated with a resist — which prevents any undercutting. *And it's dependable, day after day!*

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The Acme One-Bite Etcher is your best bet. Costly, time-consuming, 4-way powdering, heating, cooling and re-etching are eliminated. The plate is made in one simple operation. Routing time is virtually eliminated. *And it's dependable, day after day!*

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HERE'S HOW IT WORKS

The Acme One-Bite Etching process is simple. The negative is printed on an Acme Z-M (Zinc coated magnesium) plate in the conventional manner. Unexposed zinc is removed in two minutes with a dilute solution of nitric acid. The prepared plate is then fastened to the lid of the Acme One-Bite Etcher. Five to twenty minutes later the completed plate is removed ready to be cleaned, dried and brushed. That's all there is to it.

The combination plate used in this advertisement was etched by an Acme One-Bite Etcher in little more than twice the time it took you to read this advertisement.

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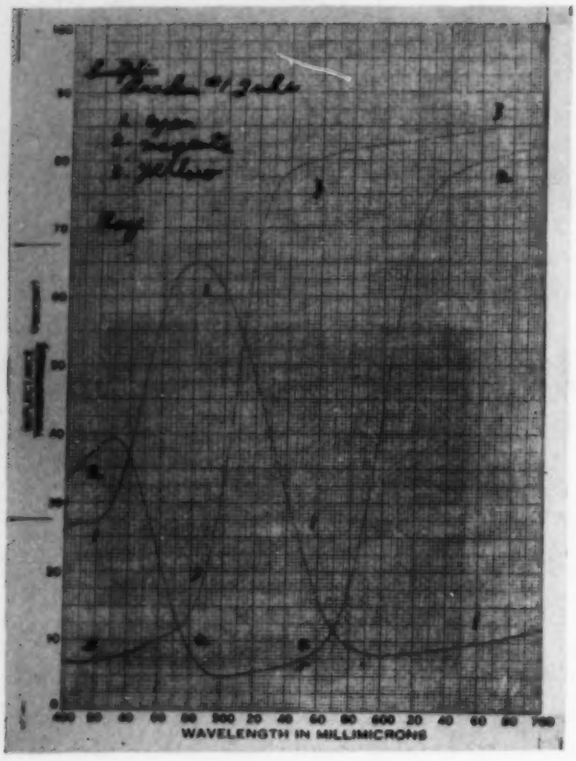


Fig. 3.

Process red should be magenta or blue-red, absorbing green and reflecting blue and red. Yellow should absorb blue and reflect red and green.

Yellow inks do their job fairly well. Although magenta absorbs green and reflects red well, it reflects blue very poorly. Cyan does a fair job of absorbing red, but the green and blue reflectance are both poor.

The net result of these ink deficiencies is that process color prints made using them do not match the color of the copy. As a result, color correction is necessary.

Improvement By Masking

Ink, however, is not the only reason why color correction is needed. Without correction, the colors of the reproduction may be too dull or low in saturation. Tone reproduction may be uncorrect. Bluish colors may come out too dark and reddish colors too light. Color print may lack sharpness. Undercolor removal may be necessary for successful printing on multicolor presses using a black printer.

All of these defects can be materially improved by the use of photographic masking.

Electronic Techniques

Electronic techniques can also be employed to accomplish the necessary corrections. Several instruments have been proposed to do this job. Among these is the Time-Life scanner in operation at the Springdale Laboratories. The machine is called a scanner because a very small spot of light is made to scan a transparency.

The color transparency and four sheets of unexposed film are strapped to a long drum. The part of the drum upon which the transparency is mounted is a carefully made glass cylinder. Scanning is accomplished by rotating the drum. With each rotation, the drum advances 0.001 in.

A tiny light inside the cylinder shines through a spot on the transparency into a beam splitter. In the beam splitter, the light is divided into three parts and subsequently passes through one of three filters: Red, green, or blue, into a photocell. The resulting three electrical currents produced by the three photocells are first amplified and then modified by the computer part of the scanner. The computer produces tone compensation, color correction (masking) lightness correction, saturation correction, undercolor removal, increases sharpness, and produces a black printer.

The modified electrical currents are applied to glow lamps which expose the four separation negatives as the drum rotates and advances. After development, the continuous-tone separation negatives are ready for screening.

In some cases, it is difficult or impossible to accomplish the desired tone compensation, black printer production or color correction by photographic masking. "In the development of the Time-Life Springdale scanner," it was stated, "it was necessary to establish precise process controls in all steps subsequent to scanning before the desired characteristics of the scanner could be definitely specified, and these controls must be maintained to approach the maximum advantages possible with the system. Once the scanner was adjusted to conform to a certain set of after-scanning steps, an extremely wide range of color subjects could be reproduced very satisfactorily without any change in these steps, and high quality color reproductions are now made by commercial printers from separations made on these scanners."

The color correction determines to a large extent the appearance in the final color reproduction. There are, however, some other very important factors. Among these are paper.

How Paper Affects Color

Paper is not an end product but a raw material to be used by the printer to carry the color image. The appearance of the reproduction is affected by the ink receptivity, the surface texture or finish, the color or whiteness, and the brightness. The kind of wood, hard or soft, and even the location of the forests can have an effect on these properties.

After processing, debarking, chopping, cooking and bleaching, the papermaker exercises careful control to produce a paper of the desired characteristics. All of the characteristics, however, are arrived at by compromise.

Brightness

Brightness is important for maximum contrast. Most of the additives to change the color of the paper lower brightness. Because of economics, it is impractical to achieve a pure white paper color. Blue-white papers are usually preferred, but cream-white stocks are best for process color. Because paper is consumed in large volume and because it must be cheap, it is necessary that paper be mass-produced.

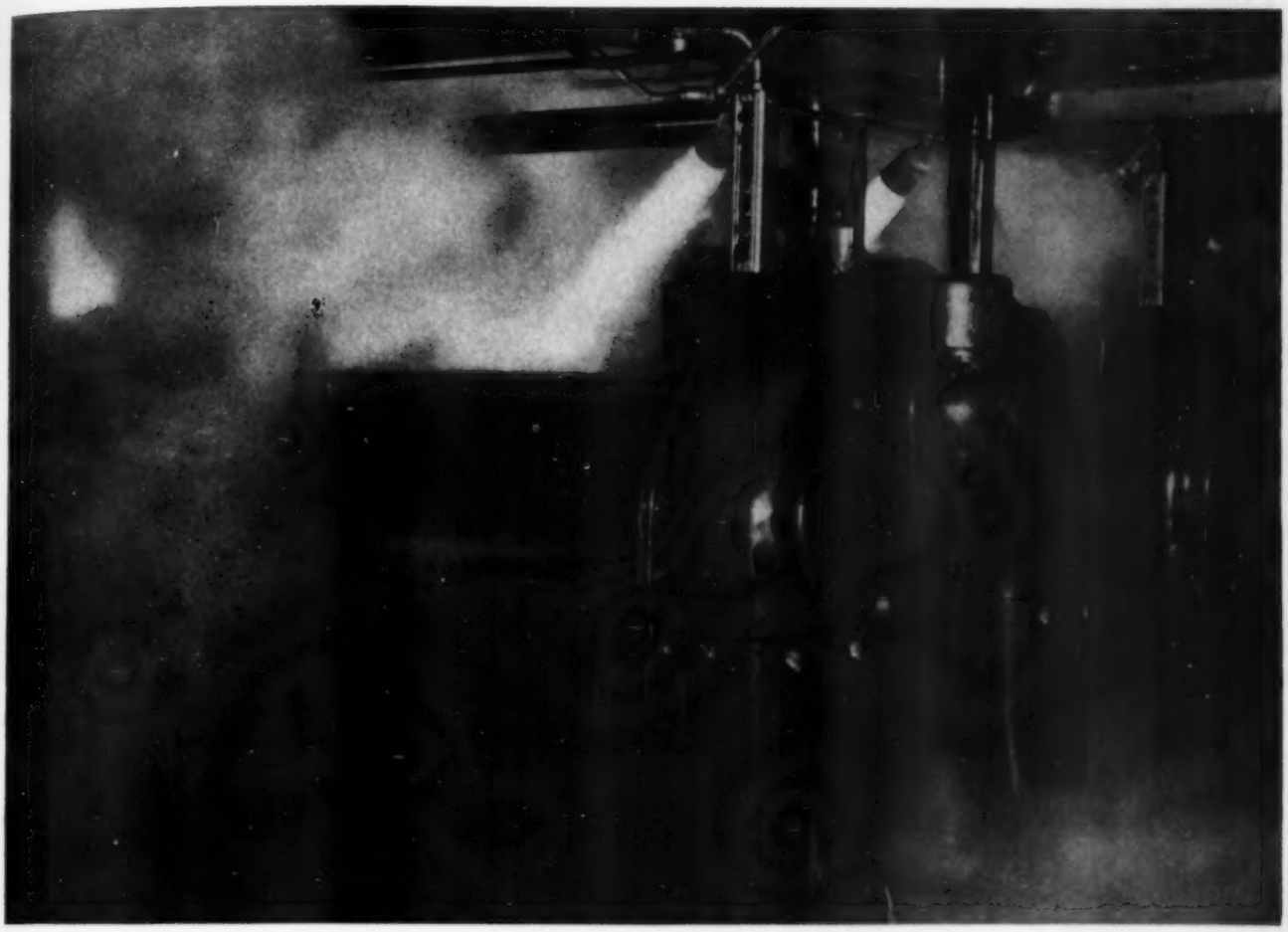
Press Superintendent's Problem

Paper is just one of the problems of the pressroom superintendent. The most serious problem with paper is the tendency of papermakers to sacrifice whiteness for brightness. A true white surface is needed for color printing, but the paper supplied is usually cream color.

The responsibility of the pressroom superintendent is serious because he has to be able to determine what is to be done with the plates, paper and ink with which he must

(*Continued on Page* 129)

STOP PRESS FIRES!



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At the very first sign of a blaze, special Kidde rate-of-temperature-rise detectors trigger the system, pouring clouds of CO_2 over the flames from Multijet nozzles, stopping fire in its tracks.

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Kidde systems use no clumsy mechanical triggering methods, no old-style falling weights. Pneumatic Control Heads insure instant and complete CO_2 discharge. All moving parts of every Kidde system are self-enclosed for safety, and have easy-to-read visual indicators which show at a glance whether the system is "set" or "released." Furthermore, special Directional Valves let you protect more than one press as well as electrical or ink storage and mixing rooms from the same bank of cylinders, giving you the most versatile protection on the market!

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Linotype's new electrically controlled Hydraquadder is shown here mounted on a Linotype Comet, ready for push button or automatic tape operation. Features include a printed electrical circuit and automatic changing from push button to tape operation (the signals in the tape cancel any signals in the push button selector box mounted at the right of the keyboard). The Hydraquadder also permits repeat quadding automatically. In tape keyboard operation a quadding position can be repeated continuously with a taped signal by depressing both the regular button and the button for the desired quadding function.

In the accompanying view, most of the major parts are indicated. At left is the Hydraquadder vise jaw actuating mechanism. Immediately at right is the mechanical knob control for directing the Hydraquadder if it is not equipped with electrical controls. In the center is the Mohrsaw vise jaw-assembler slide manual setting device. The function of the push button selector box at the upper right of the keyboard has been explained above. The Hydraquadder hydraulic system pumping unit is shown underneath and back of the keyboard at right.

Quadding With Hydraulics

By LOUIS ROSSETTO*

**Research and Engineering Div., Mergenthaler Linotype Co.*

Hydraulic power when utilized as a physical force is extremely reliable and responds immediately to minute variances of pressure. That is why it has been chosen to power new quadding attachments for linecasting machines where precision is essential.

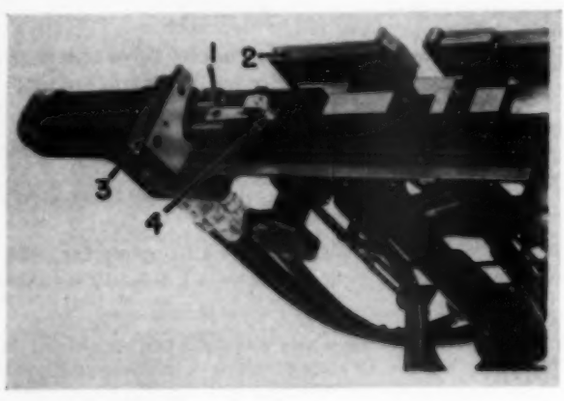
Basically, there are three types of hydraulic applications employed by industry today:

(1) The fundamental type of hydraulic system is that provided by Mother Nature herself with the assistance of gravity. This system, the free-flowing waterfall, can be harnessed to exert tremendous forces. The best example is at Niagara Falls where on-rushing tons of water turn generators that create the electricity used in homes and industry.

(2) An equally familiar system is the constrained system without flow. This system does not have control equipment in the usual sense of the word, although valves may be present for secondary purposes. Systems of this type are used for the transmission of manual or pedal effort or motion.

A good example of this is the automobile brake. To stop his car, the driver applies a downward force to the brake pedal (lever) with his foot. The foot pedal causes a corresponding downward motion of the piston in the master cylinder. The movement of the piston downward in this manner causes a displacement action in the master cylinder which forces the brake fluid through the transmission lines into the brake assembly. Here the pressure transmitted by the hydraulic fluid moves the brake band outward and causes the brake linings to be forced against the brake drum. This produces the necessary friction for either slowing down or stopping the vehicle.

(3) The third type of hydraulic system utilizes the principle of continuous hydraulic fluid circulation. A continuously operating pump keeps the hydraulic fluid available throughout the system, to be used



Top perspective view of Linotype vise with cap removed to show Hydraquadder cylinder and selector valve housing. The rear piston rod 1 which drives the left-hand vise jaw 2 projects through a large screw located in the end of the cylinder housing 3. This screw provides the banking surface for locating the left-hand jaw and also performs the vise closing function. In this view, it can be seen that the piston rods (the rear one of which is shown at 1) are rigidly connected to the vise jaw blocks. The centering pinion 4 moves downward into position to engage the teeth of the front and rear vise jaw racks.

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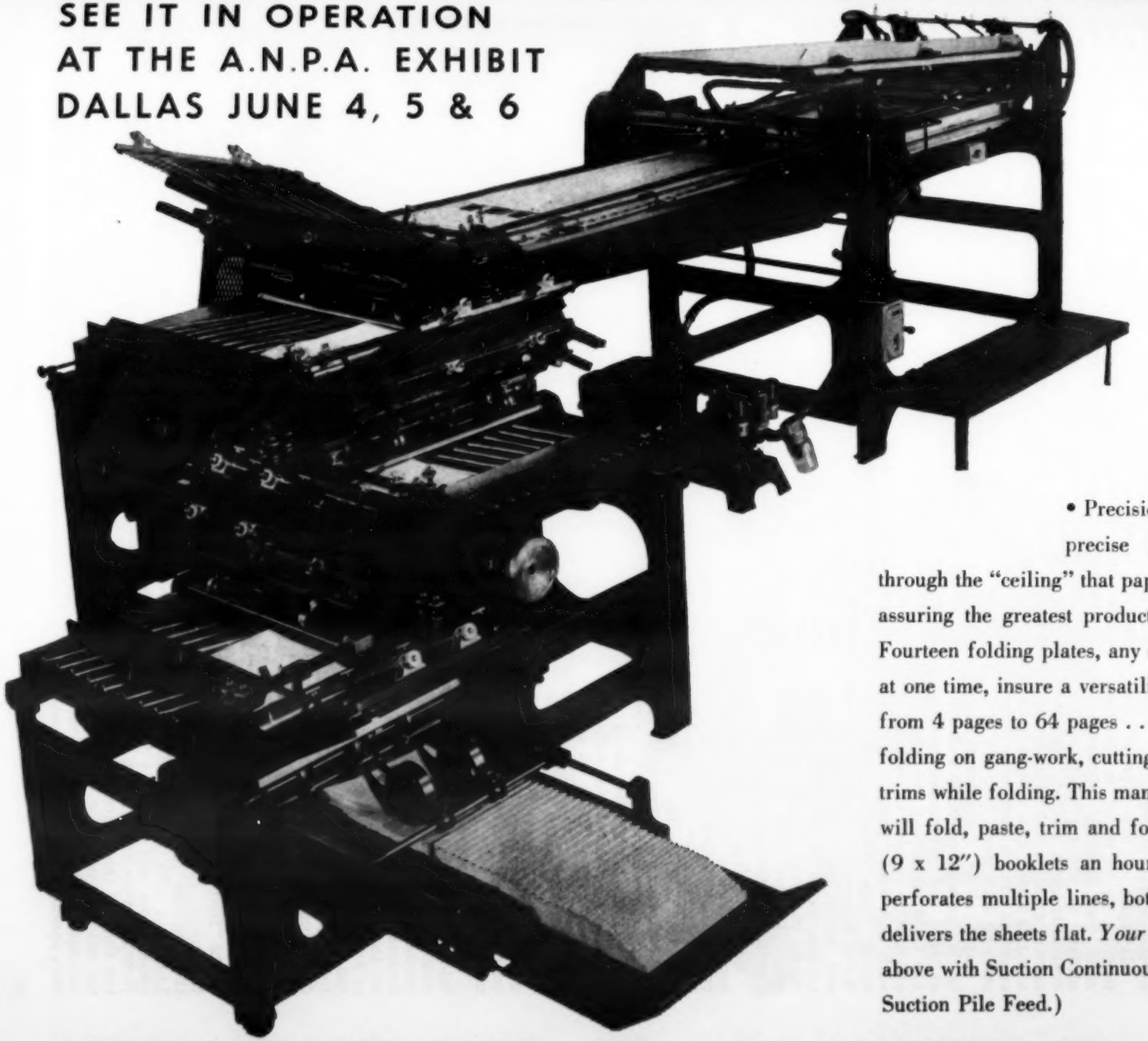

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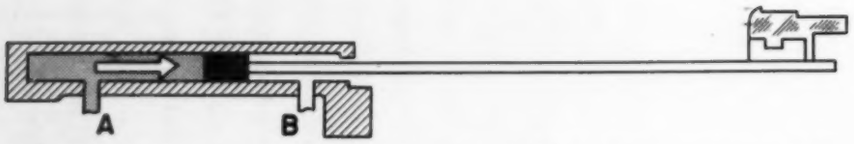


Simplified diagram to show how the Hydraquadder's double acting cylinder actuates the right-hand vise jaw. The similar mechanism for operating the left-hand vise jaw is not shown but is positioned horizontally parallel. Without going into too much explanatory detail, when the right-hand vise jaw is to be returned to normal position after flush left or centering quadding, the hydraulic fluid enters through line A *to cause the double acting cylinder to move the jaw to the right to normal position. Conversely, when the right-hand vise jaw is to be moved to left for flush left or matrix line centering position, the fluid enters the piston chamber at line* B.

at pressures and volumes dictated by the desired motions.

Examples of this type of system are to be found in the machine tool industry where it is utilized in the operation of hydraulic shapers, milling machines, surface grinders and hydraulically-actuated tables. This system is also employed in automotive power steering equipment.

Light oil is the medium used in this as well as other hydraulic systems. Its advantages include: (1) Good lubricating qualities, enabling it to be used in conjunction with high speed pumps; (2) Relatively high viscosity, which reduces leakage problems in pumps and control gear; (3) Chemical inertness, which avoids corrosion and other chemical attack problems; and, (4) Low pour point, which eliminates freezing problems.

Use of hydraulic power in the composing room was realized when the research engineering staff of the Mergenthaler Linotype Co. undertook the design of an improved quadder for use with linecasting machines.

A quadder is a device which, attached to a linecasting machine, enables the operator to set a partial line of type *flush-left, flush-right* or *centered* on the measure. Without a quadder, the operator must count off spaces and insert quads—a time-consuming requirement.

After the completion of a study into the requirements for the new quadding mechanism, Linotype's research engineers concluded that hydraulic power would be utilized as the actuating force. The use of hydraulic power would eliminate the need for additional parts and linkages that, with mechanically-driven quadders, tended to burden the quadding operation.

The Hydraulic System

The Hydraquadder consists of four units: (1) A pump driven by the machine motor drive of the Linotype; (2) A control valve, timed from and operated by the Hydraquadder cam, which directs the flow of the hydraulic fluid to the selector valve for jaw closing and opening; (3) A selector valve unit, operated by the selector knob, to direct the flow of the hydraulic fluid as required for the various quadding functions; and (4) Two double-acting cylinders which drive the vise jaws. These cylinders are contained in a housing at the end of the vise which also accommodates the selector valve. In each cylinder is a piston connected to a vise jaw.

These components provide the driving force, timing and selection of the various jaw motions; they also control the jaw forces during the various stages of the quadding function.

The hydraulic fluid is contained in a sump (reservoir) and is pumped from there to the control valve which is operated by the Hydraquadder cam on the first elevator cam of the Linotype. As the cam rotates, it positions the control valve to allow the hydraulic fluid to flow through hoses to the selector valve.

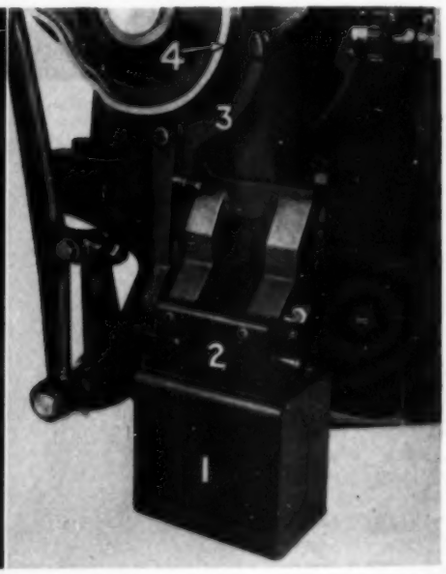
The Hydraquadder is equipped with three hoses (termed *A, B,* and *C,* herein for explanatory purposes), through which hydraulic fluid flows to and from the selector valve. Fluid flowing through hose *A* causes vise jaws to close; fluid provided by hose *B* causes the vise jaws to open; the remaining hose *C* is an exhaust line. When the machine cycle is approaching casting position, the Hydraquadder cam opens the control valve port leading to hose *A* and allows fluid to flow through it to the selector valve for Hydraquadder jaw closing. When the machine cycle has progressed through the casting function, the control valve port leading to hose *B* is opened providing fluid for opening the vise jaws.

Cam rotation automatically moves the control valve through the different settings required for jaw opening and closing during every machine cycle whether quadding is used or not. The selector valve position, determining whether the machine is to operate at regular, quad left, center or quad right, remains constant, once set, until changed. When the selector knob is turned it rotates the selector valve by means of the rack and pinions constituting the control assembly, which are attached to the selector valve and selector shaft.

Vise Jaw Control

Should the selector knob be set

In this view (left) is shown the Hydraquadder hydraulic pump attached to the rear of the machine column. The pump can be either gear or V belt driven. The one shown here is gear driven and is actuated by the main machine driving gear. The gear driven pump is shown at 1, *inlet and outlet lines at* 2, *and the fiber pinion* 3 *is meshed with the machine driving gear at* 4.



At right is shown the Hydraquadder sump and control valve assembly. Hydraulic fluid is stored in the sump 1. *When the machine driving motor is turned on, the drive operates the hydraulic pump which draws the fluid from the sump and pumps it to the control valve* 2. *This valve, mounted above the sump, is actuated by an operating lever* 3 *which in turn is actuated by the first elevator cam* 4 *on the Linotype and permits the hydraulic fluid to flow through two of the three lines to the selector valve on the vise cap.*

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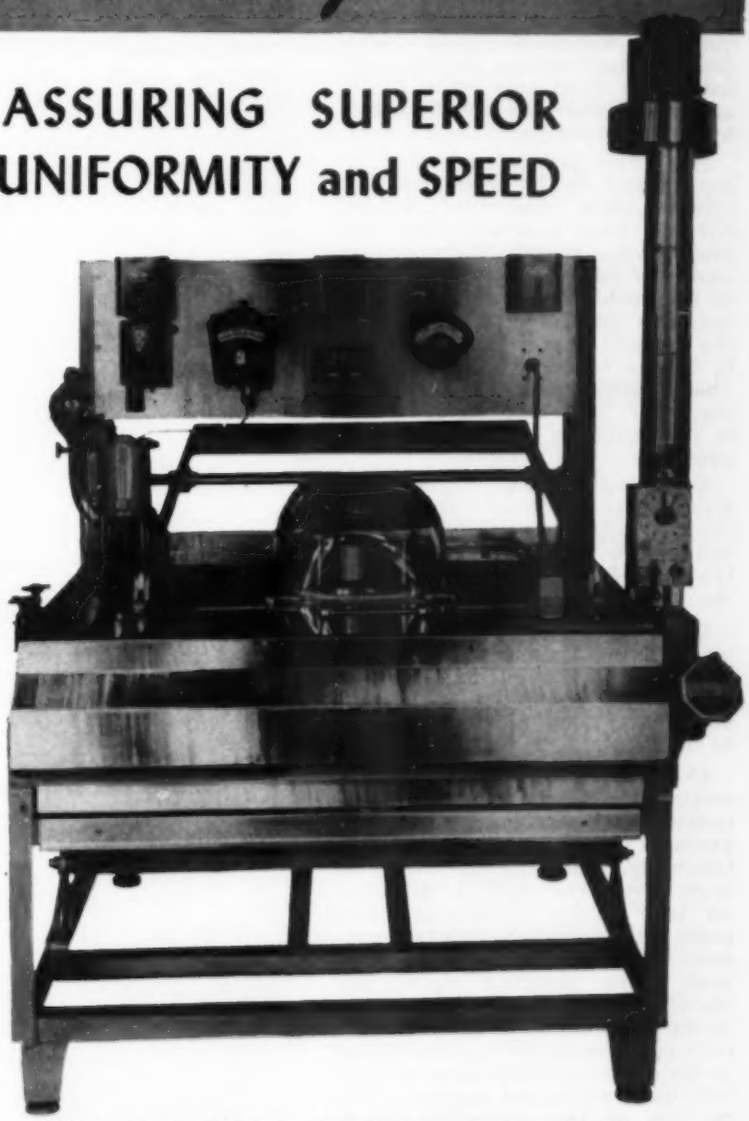

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in the regular (non-quadding) position, the selector valve connects all passages to the exhaust hose *C* and the circulating hydraulic fluid is returned to the sump.

For quadding or centering, the hydraulic fluid is directed from the selector valve into either or both of the double-acting cylinders in accordance with the operator's quadding selection (*quad right, quad left* and *center*). In each cylinder, the fluid acts on a piston and moves the vise jaw by direct hydraulic pressure.

Each vise jaw is controlled independently by its own hydraulic cylinder when *quad right* or *quad left* has been selected. The vise jaws automatically synchronize whenever *center* has been selected on the knob. This synchronization equalizes jaw travel, insuring that the line will be positioned accurately in the center of the measure. Since the jaws are driven independently, the line force exerted is the same in *centering* as for *quadding*.

Quadding left is accomplished by directing the hydraulic fluid from the selector valve to the right-hand end of the cylinder connected to the right-hand jaw, thus moving the jaw to the left.

Quadding right is accomplished by directing fluid from the selector valve to the left-hand end of the cylinder connected to the left-hand jaw, thus moving the jaw to the right.

Centering is accomplished by directing fluid into both cylinders, causing both vise jaws to move in against a line of matrices simultaneously. When the selector valve is rotated to the *centering* position, an idler pinion is cammed into mesh with the two racks which connect the piston rods to the vise jaws, thus insuring equal jaw travel and accurate, automatic centering adjustments. The left-hand rack is disengaged from the pinion in the other three positions of quad left, quad right and regular. The position of the centering pinion, which engages both racks only when the Hydraquadder is set for centering, is controlled by a cam attached to the selector knob shaft.

Regardless of the quadding function performed, when the piston motion is stopped by jaw contact with the matrices, pressure is automatically increased to 150 lbs. per sq. in. which gives a jaw force of 75 lbs. To prevent pressure from exceeding the 150 lbs. per sq. in. level, excess fluid is allowed to *bleed* through a high pressure relief valve and return to the sump.

Jaw opening takes place after the casting operation has been performed. To accomplish jaw opening after quadding left, the control valve port leading to hose *B* is opened and fluid flowing through hose *B* is directed into the left-hand end of the cylinder connected to the right-hand vise jaw, causing the jaw to move to the right until restored to its normal position. As the piston moves to the right, it displaces the fluid in the right side of the cylinder, thus forcing the hydraulic fluid into hose *A* through which it is returned to the sump.

To accomplish jaw opening after quadding right, fluid flowing through hose *B* is directed into the right-hand end of the cylinder connected to the left-hand vise jaw, causing the jaw to move to the left until restored to its normal position. As the piston moves to the left, it displaces the fluid in the left side of the cylinder, thus forcing the hydraulic fluid into hose *A*, through which it is returned to the sump.

Simultaneous application of the jaw opening actions described above is used for restoring the vise jaws to normal position after centering.

To maintain accurate left-hand margins for quadded left and non-quadded lines, the Hydraquadder is fitted with a Left-Hand Quadded Margin Control. This independent control permits accurate margin settings for quad left lines.

Since two different pressures are needed in the different stages of the quadding cycle, the necessary control is provided by two pressure relief valves.

Pressure Buildup

At the beginning of the cycle, the control valve provides a passage for returning the hydraulic fluid to the sump, at which time no pressure exists in the system. At the proper time in the cycle, the control valve is directed into the required cylinder or cylinders. The vise jaws close smoothly and evenly under low hydraulic pressure. When jaw movement has been stopped by contact with the line of matrices, the pressure is automatically increased by the steady, continued flow of fluid until a jaw force of 75 lbs. pressure has been attained.

When the fluid pressure reaches this 75 lb. level, hydraulic fluid is allowed to bleed into the sump through the high pressure relief valve provided for this purpose. Thus an even operating pressure is steadily maintained as required. As the cycle continues, the control valve is repositioned and pressure is automatically reduced by allowing fluid to escape to the sump through the low pressure relief valve until jaw force has been lowered to 15 lbs.

Vertical Matrix Alignment

This low pressure is used against the line of matrices to permit vertical alignment to take place. After the matrices have been aligned vertically, the control valve is repositioned and the jaw force again builds up to 75 lbs. This maximum force, exerted against the line of matrices to be quadded or centered, provides proper sealing between the matrices during the casting of the slug.

Jaw Wiping Action

After casting takes place, the control valve again directs fluid flow through the low pressure valve, back to the sump, and the vise jaw force against the line of matrices is reduced to 15 lbs. This low pressure is just strong enough to maintain a contact between the end matrices and the vise jaws as the matrices are moved upward for transfer and eventual distribution. The contact wipes off any type metal which might accumulate on the jaw, before it can damage the sidewalls of the matrices.

The Hydraquadder's flexible hoses, armored with steel mesh, are made to withstand 6000 lbs. per sq. in. test pressure, even though maximum operating pressure in the hydraulic lines is 150 lbs. per sq. in. The hydraulic cylinders are subjected to a 50% overpressure test in manufacture to assure leak-proof operation.

In summary, features of the Hydraquadder hydraulic mechanism are: (1) Vise jaws close gently at low pressure, slap, and grip firmly at high pressure for casting; (2) Automatic wiping action of jaws against end matrices when matrix line is raised from between vise jaws; (3) Two double-acting cylinders provide smooth in-line action for jaw closing and opening, and (4) Hydraquadder needs no adjustment or maintenance other than normal lubrication.

A simplified electrical control system is also available for manual, push button or automatic TTS tape operation of the Hydraquadder. The electrical wiring is kept at a minimum and no special electrical knowledge is needed for inspection or replacement of parts.

There are no wires in the Memory Circuit. This is the nerve center of the Hydraquadder's electrical system, receiving, storing and transferring the signal from the push buttons or perforated tape. Its complete electrical circuit is printed on unbreakable plastic board, and four interchangeable relays plug-in to socket connections enabling fast insertion of replacement components.

The electrical system utilizes an oversize transformer and a rectifier, which change the current from a.c. to d.c. while reducing the voltage to a safe level.

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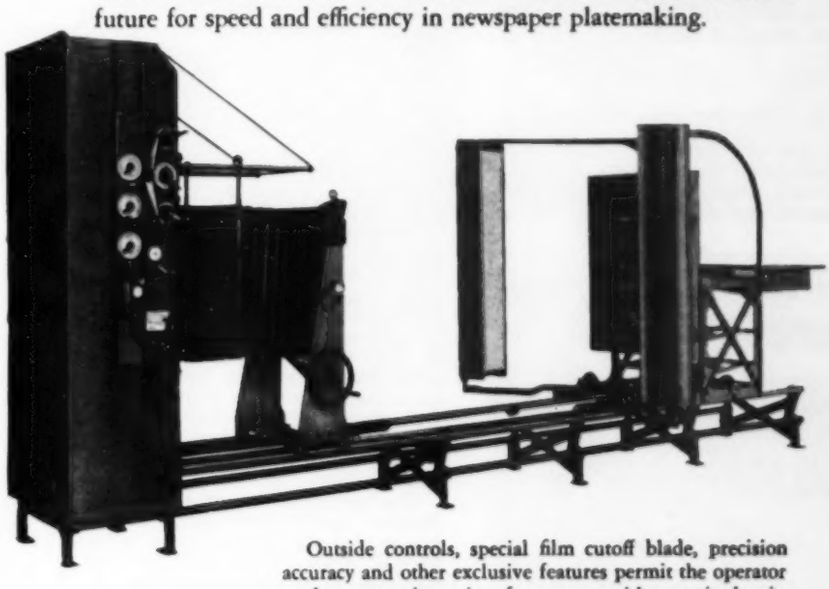

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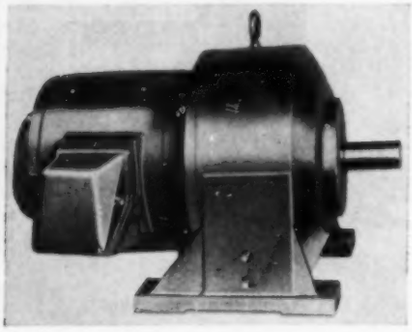


Engineering Co. Two-way seals lock oil in and seal dirt out so that the gearmotors may be mounted in any position. The gearmotors are supplied with induction hardened tooth surfaces on alloy steel gears. The gearmotor is also provided with a simple gear train. A selection of mountings, enclosures, and ratios is available. For further details, please mention PEE No. 143 in your request.

Static Eliminator Spray

Static-Go, which is said to eliminate static electricity on printing machinery, has been announced by Acrolite Products, Inc. Packaged in an aerosol container, it can be sprayed on the press tympan and underpacking of the cylinder as well as all movable parts of other machinery. Static-Go is said to be harmless to equipment, is greaseless, odorless, and inflammable. For further details, please mention PEE No. 132 in your request.

Larger Model Perforator

A new model of the Pierce Perf-A-Matic Automatic Feed Rotary Perforator with larger sheet capacity has been announced by the manufacturer, Pierce Specialized Equipment Co. Known as Model M-23, the sheet capacity of this machine is 23 in. by 25 in. down to a 3 in. by 4 in. minimum sheet, says Lewis H. Bishop, president. Perforating, slitting and scoring knife and die hubs are interchangeable between the new model and the earlier 19 in. by 25 in. model. The same bottom of the stack rotary feeder is employed, as well as variable speed drive providing production speeds up to 16,000 linear ft. per hr. New feed guide calipers have recently been developed to hold down curled or light weight stocks, improving feeding, delivery and registration, and are standard equipment on both models. For more information, please mention PEE No. 146 in your request.

Infrared Stereotype Matrix Pre-treating Machine

An automatic infrared Stereotype Matrix Pre-treating Machine has been developed by American Publishers Supply, Inc. The machine is supplied in single and double deck units. The main purpose in preparing the stereotype matrix by infrared or radiant heat is to freeze the fibres in the matrix (or to set them) so that in the scorching process where extreme heat is applied to the mat, buckles will not interfere with the process.

APS reports that experiments indicate a period of 55 sec. to infrared treatment shrinks a mat approx. 3/16 in. and sets the fibres rigidly enough so that 450 deg. of heat may be applied to the matrix without danger of creating buckles while permitting full shrinkage. In actual practice, the heaters and motor operate only when the the mat is passing through the machine.

The machine is equipped with a Master Speedranger Motor. By turning a dial on the motor, a mat can be put through the machine in 15 sec. Or, if a longer interval is desired, as slowly as 1 min. 20 sec. Any period of time between the two extremes can be secured. Greater or slower speeds can be obtained by changing the diameter of the V belt pulleys. For further information, please mention PEE No. 148 in your request.

Adds to Cartridge Ink Line

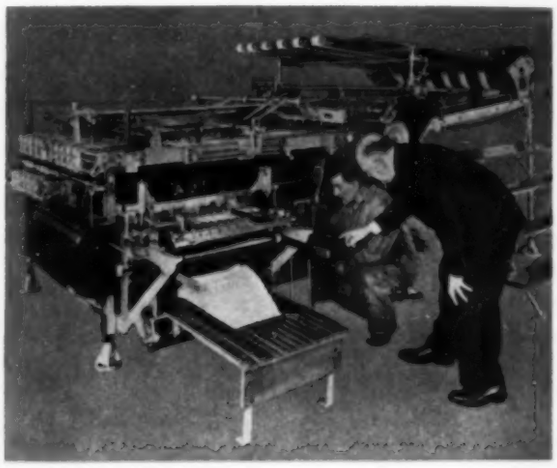
The Van Son Holland Ink Corp. of America announces the addition of

three new items now available in cartridge form. The new items are Mercantile Litho Black and Rotterdam Letterpress Black inks, and the company's new Three-Way Drier Paste. The new cartridges are interchangeable, for use in a lightweight dispensing gun for the entire Holland Ink cartridge line. For further details, please mention PEE No. 137 in your request.

Printable Mylar Tape

Printable tapes made with du Pont's Mylar polyester film for labeling and sealing containers have been announced by the Permacel Tape Corp. The Permacel 95 tape

(*Continued on Page* 120)



ATF Camco Folders—American Type Founders has acquired exclusive United States rights to the complete line of Camco book and job folders, it was announced by Milton J. Goger, president. Camco's frame and assembly system, it is announced, provides 64 different machines. Sheet sizes of 36 in. by 48 in. 46 in. by 56 in., 46 in. by 62 in., 46 in. by 72 in. and 52 in. by 76 in. are handled by the folder. The 52 in. by 76 in. folder is said to be the largest standard commercial folder ever built and generally available to the Graphic Arts industry. Equipment to handle other special sheet sizes is obtainable on special order. ATF's Camco S.C. series of equipment consists of knife type book and job folders. On the S.C.2 machine four right angle folds to make a 32 page signature, or three right angle folds and one parallel fold to make a parallel 32 page signature can be produced. A parallel 16 attachment may be added to the machine if desired.

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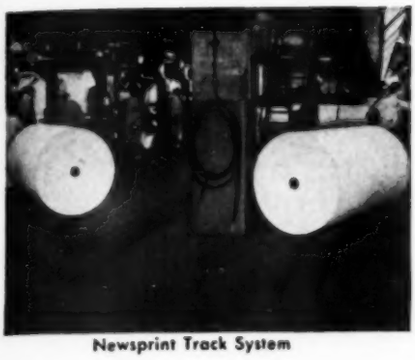

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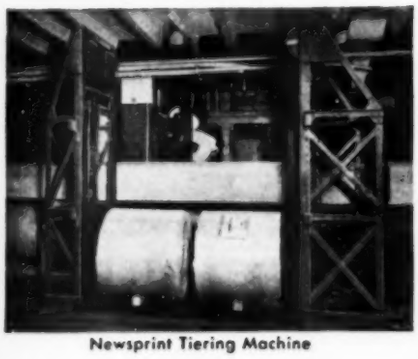

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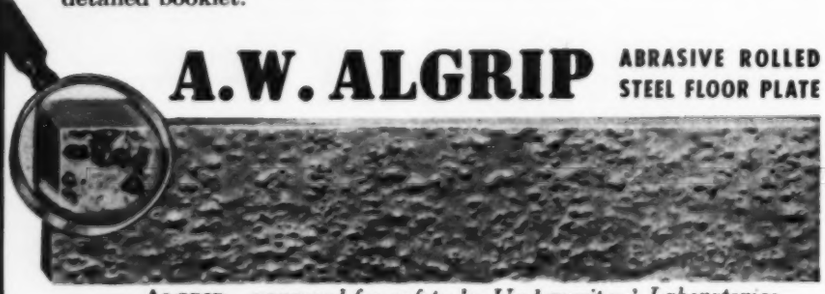

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PATENTS

For The GRAPHIC ARTS

Covering patents issued March 6, 13, 20 and 27.

All new patents for the Graphic Arts are reported exclusively for *Printing Equipment Engineer* by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issued each week. *Printing Equipment Engineer* is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Composing Room:

TYPOGRAPHICAL COMPOSING MACHINES

This photocomposing machine, of the type using a camera system employing magnification, provides a rotatable dial having separate differently graduated scales for each magnification or reduction ratio and associated mechanism for setting and releasing an assembler slide stop. It may be applied to an existing Linotype machine. Patent 2,737,096 by James C. Plastaras, assigned to Mergenthaler Linotype Co.

AUXILIARY OPERATING MECHANISM FOR TYPESETTING, TYPECASTING AND SIMILAR MACHINES

The mechanism is operable upon depression of any upper case character key of the Linotype keyboard to first cause depression of the shift key followed by immediate release thereof, thus producing characteristic shift tape perforation, and then, after a time delay, to cause corresponding letter key of the keyboard to be depressed to produce its characteristic tape perforation. Patent 2,737,240 by Claire N. Brewer, assigned to Unitypo, Incorporated.

AUTOMATIC STOPPING MECHANISM FOR TYPOGRAPHICAL LINECASTING MACHINES

The stop is a safety device which shuts off the composing and linecasting operation of a typographical machine when the galley has been filled with slugs to the maximum extent. This prevents overcrowding of the galley and prevents slugs from being pushed off the galley. Patent 2,738,869 by Otto F. Francis and William A. Haywood.

AUXILIARY KEYBOARD AND OPERATING MECHANISM FOR TYPESETTING AND SIMILAR MACHINES

These improvements can be applied to Linotype, Intertype, or Monotype machines, and relate to patent 2,679,902. They provide full electrical control for operating the shift control mechanism of the auxiliary keyboard, particularly in a tape perforating machine. Patent 2,739,649 by Herman E. Happel, Marion J. Arvin, and Francis J. Murphy, assigned to Unitypo, Incorporated.

STRUCTURE OF AUXILIARY OPERATING MECHANISM FOR TYPESETTING, AND SIMILAR MACHINES

The structure is an improvement on that covered by patent 2,679,902 on Auxiliary Keyboard and Operating Mechanism for Typesetting, Typecasting, Message Transmission, Tape Perforating and Similar Machines. The parts of the present structure, including all of the solenoids which operate each key, may be assembled, disassembled and replaced. Patent 2,737,616 by Claire N. Brewer, assigned to Unitypo, Incorporated.

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ANSCO GRAPHIC FILMS

Reprolith Film. Blue sensitive, for high contrast positives by contact printing from line and halftone negatives. May also be used in the camera.

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Reprolith Ortho. High contrast, high ortho sensitivity. For line and halftone copying of black-and-white and color originals.

Reprolith Ortho Thin Base. High ortho sensitivity, high contrast. Excellent for halftone positives, overlays, strip-ins, lateral reversals.

Reprolith Ortho Vinyl Base. Extreme dimensional stability. For map making, line separations, photo templates and wherever accurate size-holding is important.

Reprolith Ortho Type B. High speed, high contrast. For negative and positive halftones and line work from black-and-white or colored originals.

Reprolith Panchromatic. Full pan sensitivity, high speed, high contrast. For direct halftone or line separations from colored originals.

Reprolith Ortho Type B, Thin Base. High contrast and speed. Ideal for overlays, strip-ins and for printing through lateral reversals.

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Platemaking:

APPARATUS FOR FORMING GUIDE INDICIA IN FILM OF PHOTOCOMPOSING MACHINES

For the filmholder of a photocomposing machine, these improvements provide for perforation and marking of the film for aligning and locating purposes in subsequent correction, trimming and makeup work, as steps in obtaining planographic printing plates. Patent 2,737,097 by Herman R. Freund, assigned to Intertype Corporation.

APPARATUS FOR CORRECTION AND MAKEUP OF TYPE MATTER FOR PHOTOGRAPHIC PRINTING

A composite makeup for use in production of planographic printing plates may be formed using this line strip punch which is adapted to utilize physical indicia in a primary sheet of film or paper to align relative to a shearing knife any faulty line to be severed out of primary sheet. Patent 2,737,239 by Herman R. Freund, assigned to Intertype Corporation.

GRAVURE PRINTING PLATE

In a method and apparatus for engraving text from a photographic film, which film may be prepared through the use of a photographic type composing machine, a single exposure of a carbon paper through a transparency is sufficient to prepare the carbon paper for etching the printing plate. Patent 2,738,728 by Andre Schuhler, assigned to Graphic Arts Research Foundation, Inc.

METHOD FOR FORMING ENGRAVED IMAGE-REPRODUCING PLATES

An engraved image-producing plate which is characterized by a penetration-printing surface which is linear over the major portion of the image brightness range is obtained by this method. Heat is used to form intersecting dihedral troughs. Patent 2,738,730 by John A. Boyajean, assigned to Fairchild Camera and Instrument Corp.

STEREOTYPE MAT

This mat is of increased plasticity when moist so as to receive with a minimum of pressure and without fracture a full, exact and faithful impression of type, half-tones, illustrations, etc. from the metal form and to retain this impression without change during casting operation to produce a stereotype printing plate. Patent 2,739,068 by Russell R. Eichmeier, assigned to Burgess Cellulose Co.

GRAINING MACHINE

The machine is similar to that covered by patent 2,413,898 for graining printing plates. Present construction improves the sliding connection of diamond frame with tub, the tilting action of the tub for running off the graining marbles, the dumper for returning the marbles to the tub, and to adapt the device for heavy duty service. Patent 2,739,423 by Charles Zarkin.

PROCESS FOR FIXING LITHO DIAZOTYPE PRINTING FOILS EXPOSED TO LIGHT

Photosensitive foils sensitized by means of a specific group of diazo compounds, which are fixed by exposure to light under a master, are improved by application of greasy ink and water to the surface immediately after exposure and then applying a specified water soluble coating and reexposing the foil without a master. Patent 2,739,889 by Wilhelm Neugebauer and Jakob Barthenheier, assigned to Azoplate Corporation.

PHOTOGRAPHIC REPRODUCTION PROCESS

For resist image metal plate making or other photomechanical art, this process treats the exposed emulsion layer to materially reduce the light sensitivity of the silver halide in the unexposed regions of the emulsion layer. Copy of good optical density is thus obtained under ordinary methods of illumination. Patent 2,739,890 by Henry C. Yutzy and Edward C. Yackel, assigned to Eastman Kodak Co.

LIGHT-SENSITIVE PHOTOMECHANICAL RESIST COMPOSITIONS

This fully esterified polyvinyl cinnamate polymer greatly improves quality and processing latitude of light sensitive cinnamic acid esters of polyvinyl alcohol. Application is in lithographic and engraving fields. Patent 2,739,892 by Joseph J. Murray and Gerhard W. Leubner, assigned to Eastman Kodak Co.

MATRIX ROLLING MACHINE

Improvements over existing machines include a dual roller support for the matrix supporting table to prevent tilting during operating movement, top and bottom rollers to maintain horizontal alignment, and generally improved construction making the device efficient, simple and durable. Patent 2,739,527 by William F. Huck.

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Printing Presses:

PLATE GROOVING MACHINE

The machine is for automatically cutting clamp receiving recesses of predetermined length, depth and position in the back of curved printing plates to enable the plates to be mounted on or locked up on a plate cylinder of a printing press. Patent 2,736,947 by Harry W. Faeber, assigned to Time, Incorporated.

APPARATUS FOR REGISTERING PRINTING PLATES

Particularly for use in relation to multicolored printing operations, the apparatus pre-registers printing plates so that when the plates are mounted upon their respective printing cylinders, they will register exactly in position and area with areas on which impressions are made upon the web of paper passing through the printing press. Patent 2,736,968 by Harry W. Faeber, assigned to Time, Incorporated.

ANNOUNCING

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Power
Paper Cutters

26½" and 30½"

These Craftsman Power Cutters with hydraulic cutting operation are designed to provide the smaller plant with power cutting at a minimum investment.

Built to all Chandler & Price standards of high quality and dependable service, the many features incorporated in these cutters not only assure dependably accurate cutting, but also easier, faster operation and bigger production with less effort for the operator.

Standard equipment includes two knives; four cutting sticks; table light and tape magnifier; steel tape; two handed, safety operating mechanism; hydraulic power unit; and motor. For complete details write for specification sheet.

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APPARATUS FOR DECURLING A WEB

For use with printing presses, this invention removes curl from the web by pulling it over an ironing or decurler surface while the web is under tension, which tension is produced by a novel means of allowing slippage on one of two sets of feed rolls operated at differential speeds. Patent 2,737,089 by John R. Baumgartner.

FLATBED AND CYLINDER PRINTING PRESS

Suitable for multicolor work, the press has an arrangement for reciprocating the type bed so that the press will not move on the floor even when operated at speeds greater than maximum speeds of existing flat-bed presses. Patent 2,737,110 by William G. Montgomery and Samuel A. Huffman, assigned to William G. Montgomery.

FLATBED AND CYLINDER PRINTING PRESS

This patent is a continuation-in-art of patent 2,737,110. This press has a cylinder structure of the type wherein the driving means actuated by the bed drive includes only gears which are in constant mesh and which have fixed gear centers as compared to floating or moving centers, resulting in more positive drive and quieter operation. Patent 2,737,111 by William G. Montgomery and Samuel A. Huffman, assigned to William G. Montgomery.

TWO REVOLUTION PRINTING PRESS

Relative arrangement of movable parts of this press are constructed so that the form size of the press can be enlarged without increasing the overall size of the press, thereby permitting the use of one or more additional form-inking rollers to enhance ink distribution. Patent 2,737,112 by Joseph Sinkovitz.

SHIFTABLE FLEXIBLE SHEET SECURING DEVICE

With this device, the metal plate on an offset machine can be clamped on the cylinder free from folds or bends. A swivel bearing mounting on the clamping strips permits independent shifting of the two ends and a two point suspension which causes the sheet to straighten itself. Patent 2,737,887 by Erich Gericke.

STACKING DEVICE FOR MACHINES WORKING ON SHEETS, PARTICULARLY PRINTING MACHINES

This invention provides a new grate and stop arrangement in which the grates can be universally employed without obstruction by stops or other elements, so that any size sheets may be applied without disarranging the sheets. Patent 2,738,973 by Werner Koch, assigned to Faber & Schleicher Aktiengesellschaft.

HEATING ROLLS

Suitable for use with machines for drying a damp paper web, the advantages here are uniform heat and accurate control by use of confined spaces partly filled with a liquid of suitable boiling point. The transmission of heat inside the cylinder takes place by evaporation and condensation of the liquid. Patent 2,739,218 by Eric Wennerlund, assigned to The Ohio Brass Co.

DRIVING DEVICES FOR ROLLERS SUCH AS PRINTING CYLINDERS

With this device, a cylinder can be advanced or retarded angularly with respect to the driving mechanism while the cylinder is running in the manner of a running radial adjustment. The driving and driven members are suitably linked and pivoted to an eccentric. Patent 2,739,488 by George Harrison, assigned to The Thrissell Engineering Co. Ltd.

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Feeding, Folding, Delivery:

WEB CUTTING APPARATUS FOR PRINTING MACHINES AND THE LIKE

The apparatus is for use with high speed web printing, folding, cutting and delivery machin-

...are your compositors part-time detectives?

If they are it's costing you plenty! Expensive compositors' time can easily be wasted at the imposing table in search of cuts, galleys, chases, and spacing materials.

Here's how hundreds of alert printers have solved this profit crime. They've discovered that minutes wasted hunting materials and tools can be turned into profitable production by installing Hamilton imposing tables. These modern tables are self contained work areas with everything at the compositors' fingertips for faster and better work. Hamilton imposing tables cost only a few cents per labor hour to purchase—a cost that will be repaid over and over by increased hours actually on the job.

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ery of the type covered by patent 2,659,437. The arrangement is such that cutting edges are not easily injured and extreme accuracy in placement of the cutting knives is not required. Patent 2,738,842 by William F. Huck, assigned to Huck Company.

FEEDING AND DELIVERY MEANS FOR COLLATING MACHINE

An improvement on patent 2,684,848, Machine for Interleaving Folded Sheet Material; this device uses an adjustable conveyor for sheets stacked on edge, and movable supporting plates which maintain the sheets in correct vertical position, plus means for collecting the folded sheets in groups of a predetermined variable number. Patent 2,739,809 by Lewis C. Pearce, assigned to The Pearce Development Co.

SHEET HANDLING APPARATUS

This structure may be utilized in automatic or semi-automatic equipment such as paper perforators and printing presses. It provides a feed table and sheet feeding mechanism of the fixed suction type which automatically removes individual sheets. Patent 2,739,810 by John W. Miller, assigned to F. P. Rosback Co.

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Binding, Cutting, Perforating:

APPARATUS FOR CUTTING AND CREASING SHEET MATERIAL

The machine is for performing cutting, creasing, embossing and like operations on paper and the like, and is useable in conjunction with web-fed printing presses wherein an arrangement is provided for looping the web so that its movement may be interrupted at the cutting and creasing stage. Patent 2,737,238 by Tom Rowlands, assigned to The Thrissell Engineering Co. Ltd.

PATENT SEARCHES

For Patent Research in the U.S. Patent Office, or a prompt estimate on any type of search, write INVENTION, INC. Munsey Bldg. Washington, D.C.

AUTOMATIC BACK GAUGE SPACER

The automatic spacing mechanism is for use with guillotine type paper cutters of the kind used in cutting piles of sheets of printed labels or other forms. Patent 2,737,158 by Frederick W. Seybold and Nicholas Herman, assigned to E. P. Lawson Co., Inc.

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Miscellaneous:

PORTABLE GRAPHIC ARTS WORK CHEST

Chest for use by editors, artists, engravers, printers, lithographers, etc., provides a work board plus filing space for notes and indexes, instruments, layout equipment and the like. It also provides built in lighting and a translucent tracing panel. Patent 2,739,863 by Franklin Leslie Ferris.

PRINTING INKS

Useful in letterpress, lithographic and other forms of printing, the ink is composed of an ink base suspended in an organic ink vehicle in which an amine bentonite is dispersed to an extent to increase the viscosity of the vehicle enough to suspend the ink base. Patent 2,739,067 by George L. Ratcliffe, assigned to National Lead Co.

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PLATE SAWS

With Exclusive Automatic Feed

For Photoengravers, Stereotypers, Printers

No more manual squaring up, guesswork alignment, tacking, scoring, beveling, trimming, removing burrs, using wedges. That's how a Rouse Plate Saw soon pays for itself.

Just make 4 quick, easy, automatic saw cuts and your plate is ready for the printer. The *exclusive* automatic feed guarantees each cut to be perfectly square, smooth-edged and uniform on any copper, zinc, magnesium or plastic plate, whether wood or plastic mounted or shellcast.

Cuts are made to Picas, Points, Quarter Points or Inches as required. Outside Mortising is effectively done to pica and point measurement.

NEW 24" MODEL—automatically cuts up to 24" of type-high work in only 27 seconds.

15" MODEL—identical to 24" Model except it automatically cuts up to 15" of type-high work in only 17 seconds.

BOTH MODELS occupy only 26" x 26" floor space.

NEW FEATURES (*on Both Models*)

1. Now you can make *cuts as small as 1 Pica square* for signatures, key letter or number changes, etc.
2. *Narrow Cut* measures about 2 points (.028"), permitting cutting between type lines.
3. Saw blades are changed in just 1 minute due to new lever-operated tension release. Blades stay sharp during 30-40 hours continuous operation. New blades are inexpensive.
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SGAA Holds Successful Convention

Many members of the Southern Graphic Arts Assoc. who attended the association's Annual Convention and Annual Exhibit of Southern Printing heard some of the top speakers in the Graphic Arts industry. The meeting was held April 12-14 at the Eola Hotel, Natchez, Miss.

Among the convention speakers were J. R. Jackman, president, Print-

J. Tom Morgan, president, Litho-Krome Co., Columbus, Ga., was elected president of the Southern Graphic Arts Assoc., at the group's convention in Natchez, Miss., April 12-14.

ing Industry of America, who spoke on *Printing and the National Economy;* Harold S. Hutchison, immediate past president, Master Printers Section, PIA, and John H. Doesburg, general counsel, Master Printers Section, PIA, who talked on *How To Keep the Open Shop Open;* Rex G. Howard, the National Assoc. of Photo-Lithographers president, talked on *Advertising and Selling Lithography;* Walter E. Soderstrom, NAPL executive vice president, discussed *Planning to Expand Lithographically?* O. F. (Fred) Duensing, sales manager, Vandercook and Sons, Inc., talked on *Minimum Makeready Through Precision Form Preparation;* and John L. Kronenberg, division manager, S. D. Warren Co., talked on *Dust and Dirt—Pressroom Enemy No. 1.*

Officers Elected

New officers and officials of SGAA elected at the convention were:

J. Tom Morgan, Litho-Krome Co., Columbus, Ga., elected president.

A. A. Wade, S. B. Newman Printing Co., Louisville, Ky., chosen first vice president.

Harold W. Braun, Fetter Printing Co., Louisville, Ky., picked to be second vice president.

Charles E. Kennedy, 1514 South St., Nashville, Tenn., elected secretary-treasurer.

Chosen *Rebel Ambassadors*— Robert H. Caffee, Pittsburgh; J. H. Doesburg, Chicago; J. Richard Jackman, Concord, N. H.; Lyman W. Jones, Cedar Rapids, Mich.; Ray Blattenberger, Washington, D. C.; Harold S. Hutchison, Easton, Pa.; and Clyde K. Murphy, St. Louis, Mo.

Selected as the *Cabinet*—Herbert R. Nation, Montgomery, Ala.; C. A. Lick, Jr., Ft. Smith, Ark.; M. G. Lewis, Jacksonville, Fla.; J. Tom Morgan, Columbus, Ga.; W. Allan

Otto Becker, president, Mercury Lithographing Co., Miami, Fla., was awarded the grand prize for the best entry in the 17th annual Exhibit of Southern Printing. Shown is the piece of printing, the award certificate and the rosette which were presented to Becker. Other awards for printing were presented in the catagories of announcements and invitations, blotters, business cards, snap-out forms, business forms and records, checks and certificates, business stationery, letterheads, envelopes, posters, folders, sales campaigns, booklets and brochures, catalogs, maps, inserts and other types.

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2. Buy Top-quality adjusting Metals
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5. If (1) to (4) don't solve current problems, send for a Federated Service Man.

Needless to say, we think the answer to (1) is Federated Castomatic® Type Metals. They're made by a patented method and come out free of dross-producing oxides. You start clean. For item (2) we recommend Federated Mor-Tin Metal. Replaces dross pound for pound at minimal cost and holds up the casting quality of your metals. For item (3) we recommend Federated Savemet and Savaloy Fluxes. Items (4) and (5) are up to you, and we'll be glad to send the man on request.

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Blythe, Louisville, Ky.; Campbell Palfrey, New Orleans, La.; Zach T. Hederman, Jackson, Miss.; George B. Gannett, St. Louis, Mo.; Robert G. Griffin, Louisville, Ky.; Vernon Cogswell, Charleston, S. C.; Julius E. Curley, Nashville, Tenn.; Carroll D. Blanchard, Houston, Tex.; W. H. Egan, Dallas, Tex.; O. E. Wells, Wichita, Kan.; and William Maneke, Tulsa, Okla.

Elected *Elder Statesmen*—R. G. Graham, Nashville, Tenn.; John C. Henley, III, Birmingham, Ala.; Frank H. Parke, Little Rock, Ark.; H. N. Cornay, New Orleans, La.; E. A. Koester, Jacksonville, Fla.; J. T. Upton, New Orleans, La.; W. C. Guy, Little Rock, Ark.; S. Toof Brown, Memphis, Tenn.; Tom L. Ketchings, Natchez, Miss.; Forrest Lloyd, Miami, Fla.; T. G. Flimm, Montgomery, Ala.; H. F. Ambrose, Nashville, Tenn.; and M. W. Davidson, Louisville, Ky.

Chosen as the *Executive Committee*—J. Tom Morgan, R. G. Graham, John Henley, Frank Parke, S. Toof Brown, and Harold W. Braun.

Tri-City Meet Talks Personnel In Dayton, O.

The Graphic Arts Tri-City Personnel Conference held March 24, 1956, at Patterson Cooperative High School, Dayton, O., grappled with the problems of recruitment, selection, and training of personnel. The conference was co-sponsored by the Cincinnati, Columbus, and Dayton Clubs of Printing House Craftsmen; Printing Arts Assoc. of Columbus; Dayton Printing Industry Assoc.; and the Cincinnati Graphic Arts Assoc.; in cooperation with the Dayton Public School system. Approx. 120 persons attended.

Morning Session

General theme of the conference was "Action must replace complaining about personnel problems in our industry." Loren E. Askins, deputy representative, Fifth District, Intl. Assoc. of Printing House Craftsmen, Inc., presided over the morning session. Robert E. Kline, supervisor, Factory Education-Training, N.C.R. Co., and president, Dayton Board of Education, spoke on *An In-Plant Testing Program.* Marguerite Hammond, chief, Testing Section, Ohio Employment Service, Columbus, O., outlined *Public Facilities Available to Industry for Testing.* Howard Massman, printing trades coordinator, Dayton Public Schools Vocational Education Department, and secretary, Dayton Club of Printing House Craftsmen, talked about *Recruitment Procedures.* A question period to close the morning session was led by Wayne Hogan, director, Cincinnati Graphic Arts Assoc., and trustee, Cincinnati Club of Printing House Craftsmen.

Afternoon Session

In the afternoon, R. Reid Vance, executive secretary, Printing Arts Assoc. of Columbus, and management representative, Ohio Apprenticeship Council, acted as presiding officer. Robert Thiele, plant superintendent, U. S. Printing and Lithographing Co., Cincinnati, O., spoke on *Selecting Personnel.* Frank M. Voelkl, superintendent, Forms Division, The Standard Register Co., Dayton, O., outlined *An In-Plant Training Program.* Byrl Shoemaker, supervisor of trade and industrial education, Vocational Education Division, State Department of Education, Columbus, O., enumerated *State Services Available for In-Plant and Out-Plant Training Programs.* The question period following the afternoon session was led by Art Ballantyne, president, Columbus Club of Printing House Craftsmen.

Samuel M. Burt, executive secretary, The Education Council of the Graphic Arts Industry, Inc., spoke at the closing evening dinner on the subject of *What You Should Know About the Educational Council of Graphic Arts Industry.* Loren Askins opened this dinner meeting and Harry Porter, vice president,

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Greater Efficiency in New Set-up
Room for 4 More Saws
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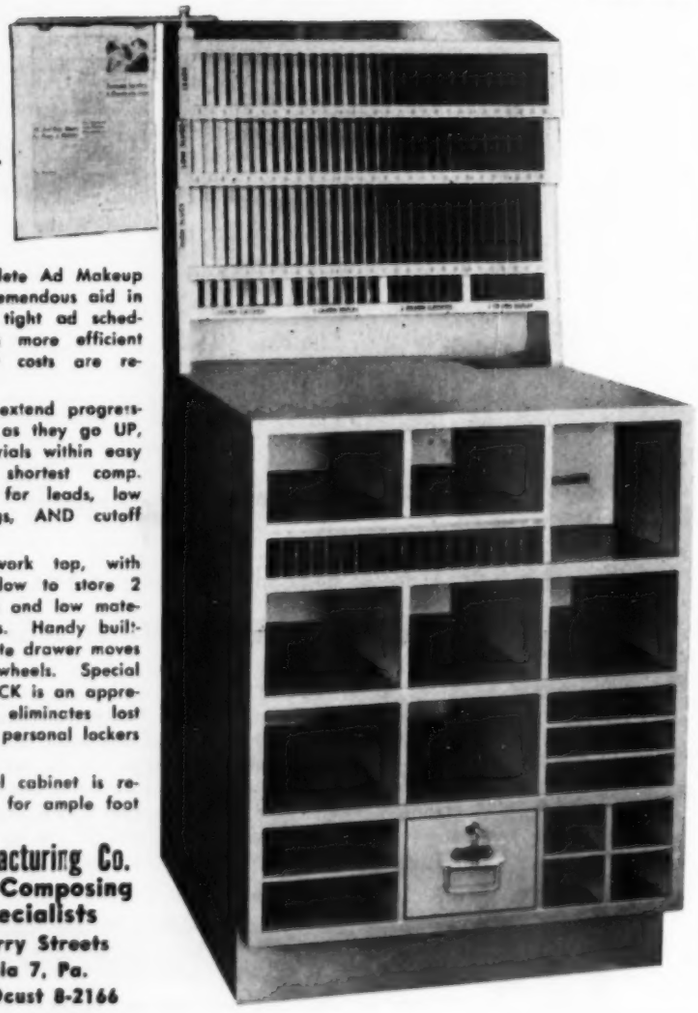

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Smooth, rigid work top, with compartments below to store 2 to 36 point high and low material, plus borders. Handy built-in removable waste drawer moves on ball-bearing wheels. Special drawer WITH LOCK is an appreciated feature; eliminates lost time in going to personal lockers for minor items.

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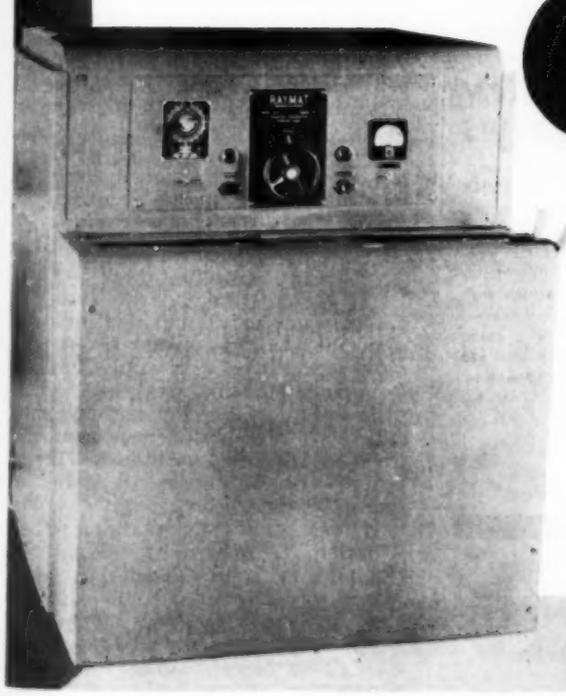

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New electronic Raymat produces uniform, precise shrinkage of stereograph through exclusive HF* drying. Raymat means uniform shrinkage . . . thorough drying . . . no case hardening . . . no bubbles . . . no buckling. Mat more pliable for easier Sta-Hi forming. Eliminates rejects resulting from surface hardening, bubbles or buckling.

Raymat is simple to operate . . . fast . . . automatic. Simplified controls include power control and automatic timer. Normal drying time from 40 to 60 seconds. Drying action starts automatically when mat is inserted.

Complete specifications available upon request.

Industron Corporation

55 NEEDHAM STREET, NEWTON HIGHLANDS, MASSACHUSETTS

Harris-Seybold Co., introduced the speaker.

Recruiting New Employees

The Graphic Arts Industry must tell its own story, the conference members were told. We must inform everyone but especially the young people of the importance of the Graphic Arts Industry; the number and kinds of job opportunities available; requirements for success; how to get a start; wages; stability of employment; functions of employee and employer organizations; and other pertinent facts.

This story, properly told, has the power to attract the right kind and number of young persons to our industry, conference speakers said. And schools are one of the best places to present this Graphic Arts Industry story. The facts presented should apply rather specifically to the local conditions. Too often this job of gathering and disseminating facts to the schools is everybody's job and nobody does it.

Testing For Graphic Arts

Efficiency and economy of placing individuals on jobs in keeping with their native capacities can be greatly enhanced through proper testing, the conference was told. Probable learning rate, special aptitudes, and other facts can be determined in "rather reliable fashion" by testing.

Large plants may find it best to ste up their own testing programs. Smaller organizations may use state employment service testing facilities at no cost. Schools usually have testing laboratories available to industry for a small fee. More information on testing is available from the Education Council of the Graphic Arts Industry, Inc.

School Instruction

It was pointed out to the conference that general education or industrial arts Graphic Arts courses in junior and senior high schools are designed to inform young people about general educational objectives. Instructors, for the most part, are not experienced printers. It is not fair to expect trade-level instruction in these courses. Printers often criticize these instructors when they should criticize themselves for not assisting these men who represent our industry to large numbers of young people.

Much needs to be done, conference speakers agreed, to get schools and industry working together to guide more and better qualified young persons into good vocational schools for pre-apprentice training. State and federal funds are available to assist in meeting the cost of public school vocational high school, apprentice, and journeyman instruction. College instruction in the Graphic Arts also is on the increase. Dayton, O., for example, has developed a plan whereby physical facilities of the local vocational high school are utilized for printing techniques courses of Sinclair College and the University of Dayton. This enables the employee to remain on the job during the day and receive college-level instruction in the evening.

In-Plant Training

More successful organizations are planning two-way programs of employee-employer communication to encourage thinking designed to improve plant efficiency and job satisfaction, the conference members were told. "Human Relations Techniques for Management Men," a manual prepared through the cooperation of Printing Industry of America, Lithographic Technical Foundation, and the International Assoc. of Printing House Craftsmen, Inc., is loaded with practical suggestions on how to start a good program of training for better supervision in your plant or community, conference members were told.

Hairline Register

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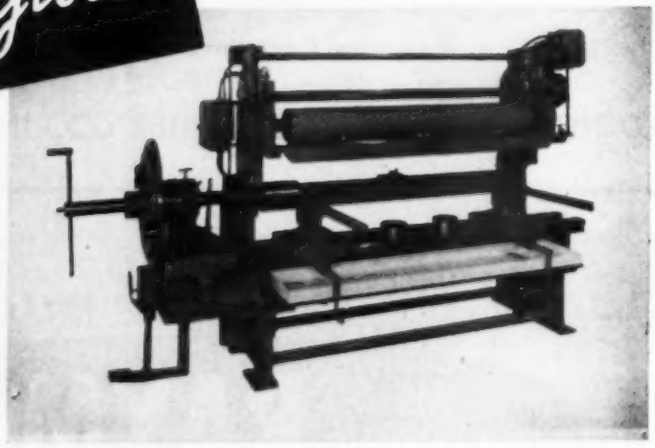

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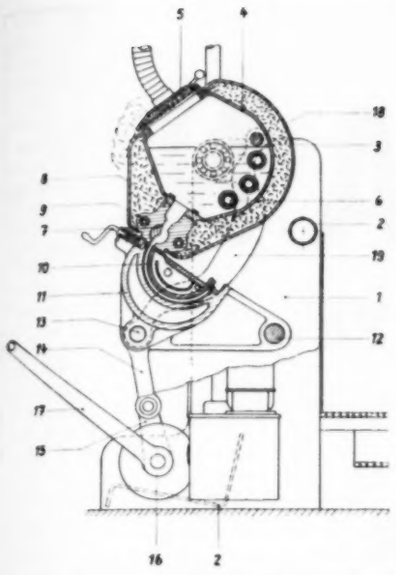

This is a cross section drawing of the M-A-N Semi-Automatic Casting Machine. Parts identifications are: 1—Side Frame; 2—Side Frame; 3—Ball Bearing; 4—Metal Pot; 5—Hinged Lid; 6—Tubes for Electric or Gas Heating; 7—Cone Valve; 8—Mouthpiece; 9—Cartridge Heaters; 10—Water Cooled Core; 11—Water Cooled Shell; 12—Axis; 13—Axis; 14—Rods; 15—Cranks; 16—Shaft; 17—Hand Lever; 18—Trunnion; 19—Drawbar.

M-A-N Stereo Plate Machines

Casting stereotype plates without tail pieces and with the stereotype metal flowing into the mold parallel with the ribs are features of the M-A-N stereotype plate casting machines distributed in the U. S. by R. Hoe & Co., Inc. Other features of these casting machines include a feeder metal pot which replenishes the stereotype metal corresponding to the volume of one plate withdrawn from the casting machine pot; a direct connection of the casting box with the valve of the metal pot; and a matrix clamping device which is designed to prevent creeping or cocking of the mat during or between casting operations.

These features are common to both the M-A-N Semi-Automatic and M-A-N Automatic Plate Casting Machines. Hoe also is distributor of the M-A-N Semi-Automatic and M-A-N Automatic Plate Finishing Machines.

In the Semi-Automatic Caster the operator is required to close the casting box by means of a hand lever. Metal flows into the casting box mold under the static pressure of a head of approx. 20 in. of stereotype metal. Core and shell of the casting box are designed to make possible production of curved stereotype plates within a tolerance in thickness and over the bevels of 0.025 in. plus or minus. This system of casting, it is claimed, pushes buckles out of the mat. If the Semi-Automatic Caster is to be used for the production of curved magazine or book plates, it is equipped with a special heating and cooling unit which circulates a heat transfer liquid through the casting box and provides automatic heating and cooling controls for both shell and core. If the unit is to be used for backing up of electrotype shells, it is equipped with the same type of heating and cooling unit used for ¼ in. curved stereotype plates. To provide additional pressure on top of the metal, the metal pot is equipped with a pressure-tight hood, three-way valve for piloting the compressed shop air and receiver tank with pressure regulator. It takes about 10 sec. to insert and clamp the matrix. Plates can then be cast at the rate of 2 per min., says the sponsor. The operator opens the casting box and the cast plate then hangs on the top edge of the core, ready for removal. Specifications of the machine include: Capacity of the pot, 1430 lbs.; drive motor, ½ h. p.; blower motor, ½ h. p.; overall width, 70 in.; overall depth (with rear steps), 77 in.; overall depth (without rear steps), 34 in.; overall height, 110 in.; height from floor to rim of pot, 60½ in.; height from top step to rim of pot, 45 in.; and approx. net weight, 3420 lbs.

Automatic Casting Machine

The M-A-N Automatic Casting Machine can be obtained in several models. In the Automatic Model I, the operator inserts the mat in the casting box and engages the drive by depressing a pedal. The machine then goes through the casting cycle automatically and opens the casting

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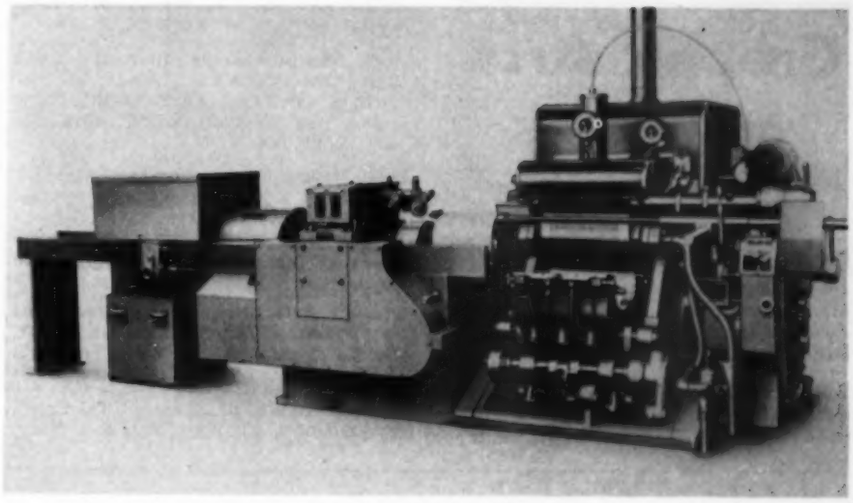
box. The operator then must remove the cast plate and, after a brief inspection, feed the plate into a plate finishing machine. In the Full Automatic Model II, the plate is conveyed automatically from the open casting box onto a saddle by means of a push bar. At the start of the next cycle, the cast plate automatically slides into a shell. After a brief inspection, the operator feeds the plate into a plate finishing machine. In the Model III, the entire operation is automatically controlled. The operator can make an inspection of the plates before they are conveyed to the plate finishing machine, but he need not handle the plates manually. Rate of production of the Automatic Caster Model I is 3 plates per min.; capacity of the Models II and III is approx. 4 plates per min., says the sponsor. Features of the Automatic Casting Machine are similar to those of the Semi-Automatic model. The casting pressure of the stereotype metal is equal to a head of approx. 25 in. of stereotype metal in the Automatic model compared to about 20 in. in the Semi-Automatic model. Other specifications of the Automatic models include capacity of pots ranging from 2750 lbs. to 9900 lbs.; capacity of motors either 3 h. p. or 5 h. p.; overall length ranging from 72 in. to 216 in.; overall depth ranging from 63 in. to 88 in.; overall height of 86 in. on all models.

Plate Finishing Machines

In the Semi-Automatic Plate Finishing Machine the plate is pushed manually into the shaving arch from which position the machine moves the plate past milling cutters for removal of burrs from the straight edges of the plate. If the length of the plate is to be shortened, the finishing machine may be equipped with a saw cutter located at the end of the cooling station. Simultaneously with the shaving operation, the beveled edges of the plate are blunted by means of skiving tools. When the machining of the plate is completed, an endless chain with dogs automatically carries it onto the delivery track for manual removal or automatic transfer to a conveyor. The M-A-N Semi-Automatic Plate Finishing Machine is adjusted to take a shave of 0.006 in. to 0.008 in. and maintains a tolerance of 0.0015 in. plus or minus in the thickness.

The M-A-N Automatic Plate Finishing machine is designed to maintain similar tolerances. The Automatic model is designed to handle up to 12 plates per min. The Semi-Automatic model is designed to handle up to 4 plates per min.



This is the M-A-N Automatic Casting Machine connected to the M-A-N Automatic Plate Finishing Machine. With this setup, the operation is entirely automatic.

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Graphic Arts Meetings

(With Organization Name and Correspondence Officer)

American Photoengravers Assoc. — 1956 Conv., Hotel Statler, Detroit, Mich., Oct. 8-10. Exec. Secy. Frank J. Schreiber, 166 W. Van Buren St., Rm. 430-A, Chicago 4, Ill.

ANPA Mechanical Conf.—1956 Conf., Statler-Hilton Hotel, Dallas, Tex., June 4-6 Mgr. Richard E. Lewis, ANPA Mechanical Dept., 370 Lexington Ave., New York 17, N. Y.

Book Manufacturers' Institute—1956 Conv., The Greenbrier, White Sulphur Springs, W. Va., Oct. 11-13. Secy. Miss A. G. Watson, 25 W. 43rd St., New York 36, N. Y.

Fifth District Craftsmen's Conf. — 1956 Conf., Hotel Cleveland, Cleveland, O., June 1-2. Secy.-Treas. Dave Walker, Adm. Asst., Graphic Arts Assoc. of Michigan, 320 W. Lafayette St., Detroit 26.

Graphic Arts Trade Assoc. Executives Secy.-Treas. Floyd Maxwell, LNA, 420 Lexington Ave., New York 17, N. Y.

Gravure Technical Assoc.—1957 Conf., Drake Hotel, Chicago, Feb. 6-8. Secy. Len S. Pinover, Room 4800, 30 Rockefeller Plaza, New York 20, N. Y.

Great Lakes Newspaper Mechanical Conf.—1957 Conf., Statler Hotel, Cleveland, O., Jan. 13-15. Secy.-Treas. Don Clark, Stereotype Supt., Grand Rapids (Mich.) *Press.*

Illinois Newspaper Mechanical Conf. —1956 Conf., Wolford Hotel, Danville, Ill. Sept. 29-30. Secy.-Treas. Arthur Kramer, Joliet (Ill.) *Herald-News.*

Intl. Assoc. Electrotypers & Stereotypers—1956 Conv., Chateau Lake Louise, Lake Louise, Alberta, Can., Sept. 5-8, Exec. Secy. A. P. Schloegel, 701 Leader Bldg., Cleveland 14.

Intl. Assoc. of Printing House Craftsmen—1956 Conv., Biltmore Hotel, Los Angeles, Aug. 12-15. Exec. Secy. Pearl E. Oldt, 411 Oak St., Cincinnati 19, O.

Intl. Graphic Arts Education Assoc. —1956 Conf., Santa Barbara College, Univ. of California, Santa Barbara, Calif., Aug. 5-10. Exec. Secy. Samuel M. Burt, 719 Fifteenth St. N. W., Washington 5, D. C.

Intl. Printers Supply Salesmen's Guild—1956 Conv., Biltmore Hotel, Los Angeles, Aug. 12-15. Secy. Louis A. Croplis, American Type Founders, 555 Broadway, New York 12, N. Y.

Intl. Typographic Composition Assoc.—1956 Conf., Royal York Hotel, Toronto (Ont.) Can., Oct. 10-13. Exec. Secy. Frank M. Sherman, 1015 Chestnut St., Philadelphia 7.

Iowa Daily Newspaper Mechanical Conf.—Secy.-Treas. Paul F. Kamler, Mechanical Supt., Clinton (Ia.) *Herald.*

Kansas-Missouri Newspaper Mechanical Conf.—1956 Conf., Town House Hotel, Kansas City, Kans., Sept. 8 and 9. Kansas. Secy.-Treas. Larry Miller, Kansas Press Assoc., 701 Jackson St., Topeka, Kans. Missouri Secy.-Treas. William A. Bray, Missouri Press Assoc., 220 Walter Williams Hall, Columbia, Mo.

Lithographers National Assoc., Inc.— Exec. Dir. W. Floyd Maxwell, 420 Lexington Ave., New York 17, N. Y.

Mid-Atlantic Newspaper Mechanical Conf.—1957 Conf., Sheraton Hotel, Philadelphia, Pa., March 21-23. Conf. Dir. Theodore A. Serrill, PNPA General Mgr., 2717 N. Front St., Harrisburg, Pa.

National Assoc. of Litho Clubs—Exec. Secy. Elton N. Baker, 833 N. Orleans St., Chicago 10, Ill.

National Assoc. of Photo-Lithographers—1956 Conv., Hotel Commodore, New York, N. Y., Sept. 19-24. Walter E. Soderstrom, 317 W. 45th St., New York 36, N. Y.

National Paper Trade Assoc.—1956 Meeting, Conrad Hilton Hotel, Chicago, Ill., Sept. 17-19. Secy. J. H. Longergan, 220 E. 42nd St., New York, N. Y.

National Printing Equipment Assoc., Inc.—1956 Meeting, Statler Hotel, Los Angeles, Calif., Oct. 20-Nov. 1. Secy. James E. Bennet, 140 Nassau St., New York 38, N. Y.

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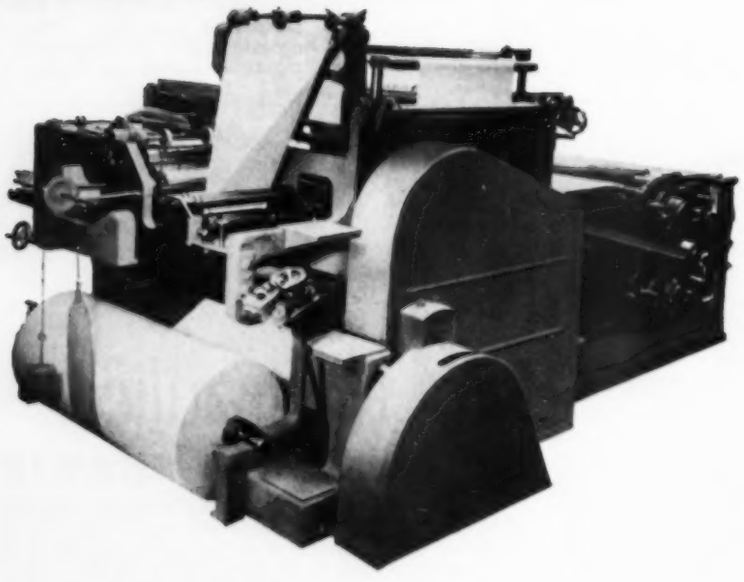

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National Safety Council Printing and Publishing Section—1956 Conf., Conrad Hilton Hotel, Chicago, Oct. 24-25. Staff Rep. N. T. Kinney, National Safety Council, 425 N. Michigan Ave., Chicago 11.

New England Composing Room Executives Assoc.—Secy. Lewis R. Green, Westerly (R. I.) *Sun.*

New England Newspaper Mechanical Conf.—1956 Conf., Statler Hotel, Boston, Mass., Oct. 20-21. Secy.-Treas. Walter C. Crighton, Comp. Room Supt., New London (Conn.) *Day.*

New York State Capital District Mechanical Conf.—Dir. Floyd Laurenty, Schenectady (N. Y.) *Union-Star.*

Northwest Mechanical Conf.—1957 Conf., Hotel St. Paul, St. Paul, Minn., Feb. 16-18. Secy.-Treas. Ralph N. Carson, Linecasting Instructor, Dunwoody Industrial Institute, 818 Wayzata Blvd., Minneapolis, Minn.

Pacific Newspaper Mechanical Conf.—1956 Conf., Biltmore Hotel, Los Angeles, Calif., Sept. 14-16. Secy. Fred Moyer, Sr., 6630 Mayflower Ave., Bell, Calif.

Packaging Institute Assoc.—1956 Conv., Statler Hotel, Cleveland, O., Sept. 10-12. Exec. Dir. Chas. A. Feld, 342 Madison Ave., New York 17, N. Y.

Printing Industry of America—1956 Conf., Statler Hotel, Los Angeles, Calif., Oct. 30-Nov. 2. Gen. Mgr. James R. Brackett, 719 Fiftenth St., N.W., Washington 5, D. C.

Research and Engineering Council of the Graphic Arts Industry, Inc.—1957 Meeting, Ben Franklin Hotel, Philadelphia, May 15-17. Managing Dir. Robert E. Roossell, 719 Fifteenth St., N.W., Washington 5, D. C.

Screen Process Printing Assoc., Intl.—1956 Conv., Sherman Hotel, Chicago, Oct. 19-21. Exec. Secy. Robert H. Blundred, 549 W. Randolph St., Chicago 6.

SNPA (Eastern Div.) Mechanical Conf.—1956 Conf., The Dinkler Plaza, Atlanta, Ga., Aug. 19-21. Secy. John A. Hogg, Southern Newspaper Publishers Assoc., P.O. Box 1569, Chattanooga 1, Tenn.

SNPA (Western Div.) Mechanical Conf.—1956 Conf., Statler-Hilton Hotel, Dallas, Tex., June 4-6. Secy. Walter Johnson, jr., P.O. Box 1569, Chattanooga 1, Tenn.

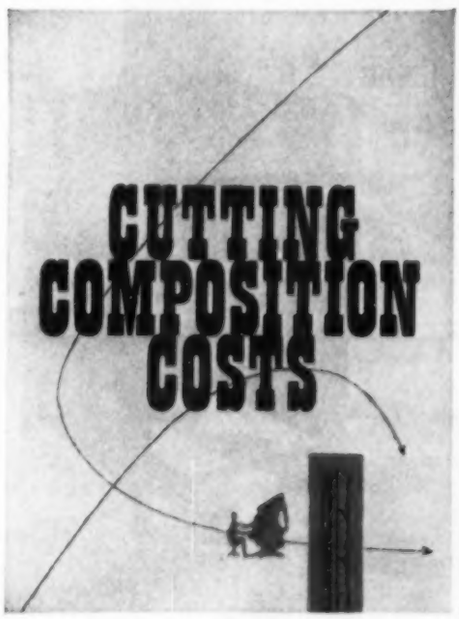
Southern Graphic Arts Assoc.—Secy. Charles E. Kennedy, 1514 South St., Nashville 2, Tenn.

Technical Assoc. of the Graphic Arts—1957 Conf., Ben Franklin Hotel, Philadelphia, May 13-15. Secy.-Treas. Phillip E. Tobias, 140 N. 6th St., Philadelphia 6, Pa.

Fielding Utz Dies—Fielding A. Utz, sr., prominent roller manufacturer and printing machinery machinist, died recently in Milwaukee, Wis. Utz was president, Milwaukee Printers Roller Co. and a former Sixth District Representative of the Intl. Assoc. of Printing House Craftsmen. Active in all Craftsmen activities, Utz will be missed by his many associates.

PUNSHON GEFFKEN CAMPBELL FAST

Appointed at Huber—Thomas Punshon has been named technical director; Claude Geffken, laboratory manager; and Douglas Campbell, production manager, according to Charles Fast, manager of factories, J. M. Huber Corp. Ink Division. Punshon joined Huber as production manager in 1944 and was later appointed manager of laboratories. Geffken began with Huber in 1948 as a chemist and became supervisor of Container Ink Development Section.



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NEWS ITEMS

Labor Relations Director—E. C. Day has been named labor relations director of Brown & Bigelow, St. Paul, Minn., calendar and advertising specialties company, it was announced by Sam D. Moskovitz, director of industrial relations. Other appointments in the industrial relations department include the following: Wyeth P. Nelson as personnel director and Elmo F. Mattox, Jr., as employment manager of Brown & Bigelow plants.

HALSTEAD

Albert Halstead Dies — Albert Halstead, who had been associated with The Cottrell Company and predecessor companies, since 1924, passed away April 3. Halstead joined the Claybourn Corporation which in 1937 became the Milwaukee (Wis.) Division of C. B. Cottrell & Sons Co., now The Cottrell Company. Halstead was 58 at the time of his death. He is survived by his mother, his wife, Orlean Vandiver Halstead, his sister and two daughters. After spending several years in various sales and administrative capacities in the Milwaukee, Wis., office of the former Claybourn Corporation, where he advanced to the position of vice president, Halstead was transferred to Chicago as the company's midwestern sales manager in 1940; in 1952 he moved to New York, N. Y., and became vice president and sales manager. Halstead was a member, active or honorary, of numerous Graphic Arts organizations and printing trades associations in major cities in the United States. He was regarded as an authority and expert in the photoengraving and platemaking fields.

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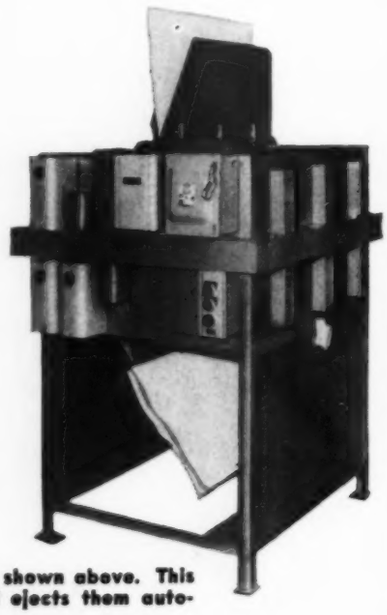

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The new instrument for determining all the essential measurements of a curved printing plate. Thickness, width, and depth in the non-printing areas.

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Montague, Massachusetts

Engler, Hallenbeck Named—Gifford-Wood Company announced the appointment of Walter G. Engler and Alfred H. Hallenbeck as vice presidents of the company. Hallenbeck joined Gifford-Wood in 1921 and Engler in 1929. Walter Engler has been

ENGLER

HALLENBECK

general sales manager of G-W since 1951. Prior to this he was manager of G-W's New York office and manager of the company's Chicago office. Hallenbeck was works manager of G-W's Hudson, N. Y., plant before his appointment.

Hoe Appoints Burgess — Appointment of Virgil P. Burgess as assistant treasurer of R. Hoe & Co., Inc., has been announced by J. L. Auer, president. Burgess was previously general comptroller of Houdaille Industries.

BURGESS

HOBART

Hobart Promoted —Aaron Hobart has been promoted to eastern district manager, The Cottrell Co., says Stanton C. Saunders, vice president sales. Hobart has been active in the Graphic Arts industry in the East for many years and most

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- Insures fast steady running, full production without stops for unnecessary washups while improving the quality of your work! Easily and quickly installed *on any type of press.* Lasts the life of your equipment. This profitable Cleaner is endorsed by leading companies everywhere. Write today for our Profit Producing Cleaner Bulletin.

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recently was sales representative in the New England area for Cottrell. Hobart also recently graduated from the management school sponsored by the American Management Assoc. in New York, N. Y.

Former H.-S. Vice President Dies—Charles W. Harrold, former vice president in charge of engineering for the Harris-Seybold Co., died at his home in Cleveland on March 17, at the age of 75. He had retired from the company in 1954. In his nearly 50 yrs. with Harris-Seybold, Harrold became holder or co-holder of 64 United States patents in the printing equipment field. Harrold is survived by his wife, Ethel B., a son, and a married daughter.

KESSELL

New ATF Director—Lawrence R. Kessell, management and industrial consultant, was elected a director of American Type Founders, and a member of the board's executive committee, it was announced recently by Milton J. Goger, president.

Bebee Appointed Manager—Francis H. Bebee has been appointed manager of Interchemical Corporation's newly created Commercial Development Dept. The department is for investigation of the commercial possibilities of new products and new fields of activity, as well as the commercialization of projects and new products to the point where they are assigned to an operating division. The Market Research Dept., under John Duane, will continue as a separate activity.

ATF Names Two—Edward A. Zickert was elected secretary and Louis E. Pleninger was named vice president in charge of foreign operations for

ZICKERT

PLENINGER

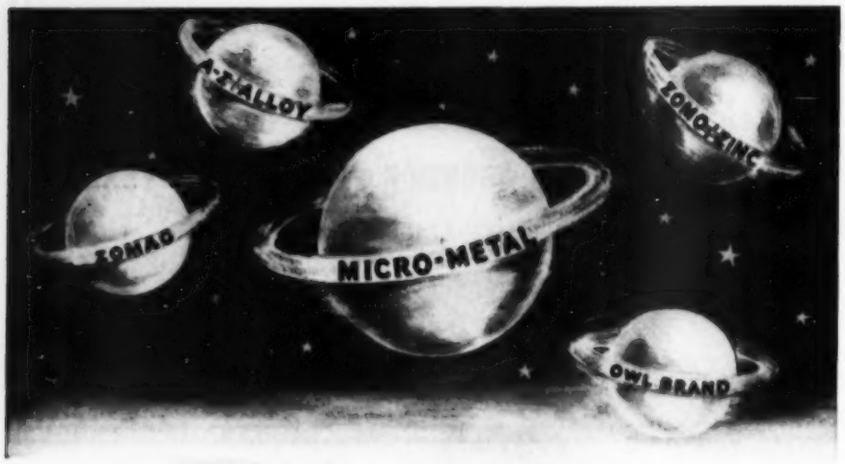
American Type Founders. Zickert began working for ATF 17 years ago and Pleninger is now in his 20th year with the firm.

Miller Canadian Manager — The appointment of Walter A. Sprague as manager of Miller Printing Machinery Co. of Canada Ltd. has been announced by A. E. Searle, jr., vice president, Miller Printing Machinery Co.

SPRAGUE

Ray B. Keller, Hammermill Paper Co. printing supervisor for 30 yrs., passed away April 9. He was 53. Death followed seven weeks' hospitalization.

Summer School at Carnegie Tech—All phases of printing will be studied in six week summer school courses at Carnegie Institute of Technology, Pittsburgh, Pa., from June 25 to August 4, as announced by Kenneth R. Burchard, assistant dean of the School of Printing Management. The summer printing program will carry college credit. Individual courses in planning, design, estimating, cost accounting, sales, and management will be offered, as well as skill-development courses in typography, machine composition, presswork and photolithography. Professor Burchard, who is in charge of the summer printing program, said students may take one or more courses. Fees will be on the individual course basis, ranging from $38 to a maximum of $58, depending on the subject. Applicants will be accepted on the basis of previous education, training or printing experience. Advanced applications may be filed with the Director of Summer Session, Carnegie Institute of Technology, Pittsburgh 13, Pa.



Every One—

A STAR PERFORMER!

HERE'S a galaxy of *tested* engravers' metals, which are being used daily by leading photoengravers.

UNIFORM COMPOSITION • FINE GRAIN
ACCURATE GAUGE • FLAWLESS FINISH

make them unexcelled foundations for the engraver's skill!

SPECIFY and use these engravers' plates according to their functional applications: ZOMO-ZINC, for regular, day-in, day-out engravings; A-Z ALLOY for long-run printing and mat molding; OWL BRAND, for "medium-tempered," non-buckling requirements; ZOMAG, time-tested, lightweight magnesium, and MICRO-METAL, a superfine zinc alloy for POWDERLESS or CONVENTIONAL etching.

Order these STAR performers from your metal supplier.

ZOMO ELECTRIC ZINC • A-Z ELECTRIC ALLOY
ZOMAG • MICRO-METAL

Face-O-Type

SAMPLE OF WORK

Mechanically Reproduces an Engraved Type Screen Pattern

Space: 18" long, 6" wide—Weight: Approx. 50 lbs.

- Will cut page cost and speed production.
- Comes equipped with two different screen patterns. Either pattern can be used without making any change on machine.
- Mechanically screens the face of type-high slugs, border and hand type cast in stereotype metal.
- Manually operated, precision built and easy maintenance.
- Will take slugs up to 144 pt. condensed, borders up to 84 pt. by 72 picas, hand type up to 96 pt.

CAPITAL TOOL & MANUFACTURING CO.

5000 Calvert Rd. • College Park, Md. • Union 4-7677

ANY ONE OR ALL SERVICES

5

Advertising Art

Commercial Photography

Offset Plates

Letterpress Plates

Rotogravure

Master craftsmen skilled in new methods and processes, backgrounded by 30 years' experience, assure you superb quality. Overnite to most printing centers, our services enable you to adhere to delivery schedules. More than 200 American printers and lithographers depend on Graphic Arts. A trial job will convince you we are reliable for all your printing requirements.

WE DO NOT OWN OR OPERATE COMMERCIAL PRINTING PRESSES.

graphic arts corporation of ohio

110 OTTAWA ST. • CHERRY 4-3781 • TOLEDO 4, OHIO

CHICAGO • NEW YORK

Cooksey System of

WEB CONTROL

EQUIPMENT DESIGNED TO COMPLETELY PROTECT YOUR PRESS WHEN A WEB BREAKS . . . INSTEAD OF MERELY STOPPING IT!

WEB BREAK DETECTOR

- Precise and quick acting to stop press instantly at the time of a web break.
- Has running position, threading position and two lock-out positions.
- Press cannot be operated at high speed unless shoes are in operating position.
- Can be mounted in any and all positions in press.
- Shoe pressure and range of operation can be easily adjusted for any web condition.

TROLLEY

- The most outstanding advancement made in web break detector systems in recent years. It prevents the web, after the impression, from lashing back and wrapping around the printing cylinders.
- The Cooksey System is the only system that provides this feature therefore it is the only system that can actually prevent damaging wrap-ups due to web breaks.

WEB SEVERING DEVICE

- It is compact, and the action is positive and instantaneous.
- Cuts completely across the whole sheet.
- Clean cut web comes out of printing unit at time of a web break instead of ragged tails or loose pieces that may cause additional delay.

SALES AGENTS:

THE GOSS PRINTING PRESS CO., CHICAGO

R. HOE & CO., NEW YORK

WOOD NEWSPAPER MACHINERY CO., NEW YORK

CLINE ELECTRIC MFG. CO.

For Information Write To

KORTHE ENGINEERING CO.

9353 SEYMOUR AVENUE

SCHILLER PARK, ILLINOIS

New York Craftsmen Attend Colorful Meeting on Color

By ADAM HENRI REISER

The New York Club of Printing House Craftsmen, Inc., heard two talks on techniques in color, under the title, *World of Color* at the April 19 meeting in New York, N. Y. *Colorful Advertising Gimmicks* was the heading under which P. K. Thomajan grouped his talk; Jack Lomax, assisted by Steve Lambert, explored the field of *R.o.p. color*.

Two thoughts assailed me listening to these capable artisans deliver their talks. First, the important part color is playing in printing as portrayed in the exhibits; but more important the tremendous part color plays in selling.

Gimmicks

Selecting samples from his table full of gimmicks, P. K. Thomajan demonstrated how gimmick promotion sold printing. Thomajan declared that the gimmick put motion into printing and made "the printer a sprinter." He felt the gimmick started a chain reaction that set the recipient thinking. Too many ads today were thought to be too heady, too intelligent. They need the wallop brought to them by the gimmick.

Take the gimmick representing a large firecracker. When the top was removed, a rolled up message could be extracted making a very forceful promotion. One firm bought up 1000 of the spikes used on the Third Avenue "L" when it was torn down. These were japanned, and sent to clients of printing with a message wrapped about each one calling attention to the spike and its function. "Let's nail it down" read the message about the printing wants and services that this particular printing house could render.

Or consider the example of the wax apple sent out by a women's help employment agency. "This did the trick before" read the message that was printed on the leaves fastened to the stem of the apple.

P. K. Thomajan in left picture holds up one of gimmicks in advertising which he used to illustrate his talk before the New York (N. Y.) Craftsmen's Club. Craftsman President Kendal Slade is the interested listener seated in the background. Jack Lomax, stands speaking on r.o.p. color before the New York (N.Y.) Craftsmen's Club in the picture on the right. He is holding up a sample sheet of a four-color newspaper ad while Charles Felton, club education chairman, readies another sheet for viewing.

Announcing—a completely NEW PROOF READERS DESK!

Designed and created in cooperation with Chicago Tribune mechanical executives for use in their new proof reading department.

Illustration shows part of a 40 desk installation.

FEATURES INCLUDE: ¼" Plexiglass curved ends and work shelf. ¼" Plate glass back panel.

Linoleum covered copyboard fitted with front to back positive locking adjustment and 5 position slope up to 45°.

Floor space 50" x 24".

Write for Information

HANSEN METAL PRODUCTS CO.

7171 Bloomingdale • Chicago, Illinois

Originators, Designers, Builders—Dispatch Detail Control Systems

CUT weight CUT costs

IN COMPOSING ROOMS & PRESSROOMS

with

MAGNESIUM

MOUNTING BASES and FURNITURE

- Feather-weight
- Super strong
- Ever-lasting No shrinkage, warpage or breakage

Prompt Delivery All Sizes, Heights

Send for details, prices Today.

NOW YOU CAN CONVERT YOUR LETTERPRESS Right in YOUR own PLANT to do PROFITABLE

HOT SPOT CARBONIZING

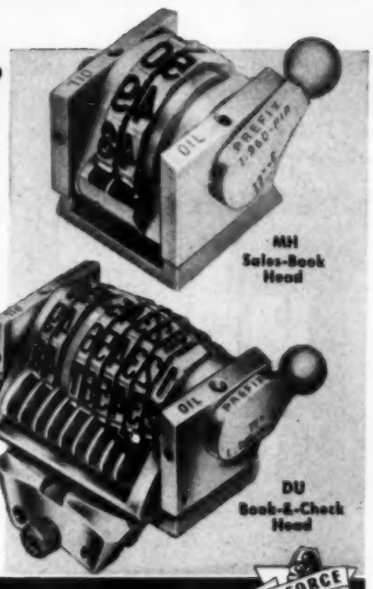
Write for Details, Prices

DOVEN

MACHINE & ENGINEERING CO.

2706 W. Van Buren Chicago 12, Ill.

There's Money in Sales Book Numbering



FORCE
Rotary Heads

Printing sales books? Specify Force Sales-Book or Book-&-Check Rotary Heads. They are designed to guarantee high-speed, profitable numbering every time. Let us send catalog.

●

Write for Force Rotary Head Operating & Maintenance Manual

WM. A. FORCE
& COMPANY, INCORPORATED
216 NICHOLS AVENUE, BROOKLYN 8, N. Y.

The FORCE Line of NUMBERS

Capco REWINDER

- Rolls lifted from the bottom by hydraulic lifts. No overhead lift.
- Low splicing table at operator's side for easy accessibility.
- No shafts, no chucks with input and output roll center close to floor to minimize lifting and lowering.
- Slitter cuts damaged paper from full roll to ¾ size or ¾ to ½ size saving up to 75% of damaged roll.
- Rolls, out of round, can be rewound thereby increasing production by not having to slow press to accommodate jumping roll.

Get further particulars from

CAPITAL TOOL & MANUFACTURING CO.
5000 Calvert Rd. • College Park, Md. • Union 4-7677

MELT COSTS as well as METALS

with the NOLAN REMELTER and MELTEVATOR

Nolan reduces your loading time alone by 95%! The Nolan Remelter and Meltevator knock your metal handling costs way down while turning out cleaner ingots. Take a good look at these features!

"Push Button" Loading! Loading time for 600 lbs. of metal goes down from 12 minutes to 30 seconds! You just push a button and the scrap goes into the Remelter. A valve at the bottom eliminates hand ladling.

Less Than 2 Hours Melting Time! The Nolan Remelter melts a full pot in that time. Additional loads take only 1 hour.

More Efficient Space Utilization! You can save space by installing the Nolan Remelter in any convenient location. The Nolan Meltevator eliminates the space-eating scrap metal bin. You can utilize more space for production with Nolan.

Lower Metal Costs! You need far less raw stock. Nolan minimizes oxidation and dross. Ingots are cleaner.

For a fast, efficient flow of metal, Nolanize your remelting! Nolan will custom-design installations to meet your specific requirements. Write today for the facts on Nolan Remelter and Meltevators . . . or for a call by a Nolan Representative. No cost or obligation.

Up to 10 tons capacity with or without Meltevator

NOLAN Corporation
Dept. 26, ROME, NEW YORK

SPEED PRODUCTION with RICHARDS' PRECISION

SAWS • ROUTERS • MORTISERS

For further information on these and other **RICHARDS EQUIPMENT,** *Saws — Routers — Mortisers, please write*

NEW MODEL

Code: M2-B

ENCLOSED CURVED PLATE ROUTER

with new close coupled single belt drive
Ball bearing construction throughout
Price $1875.00 complete

'ELECTROMATIC' SAW TRIMMER

For Stereotypers, Electrotypers, Photoengravers

Code: EST-27x36 Table
ESST-32x42 Table

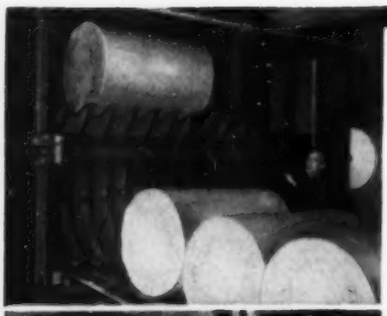
Code: PMRS

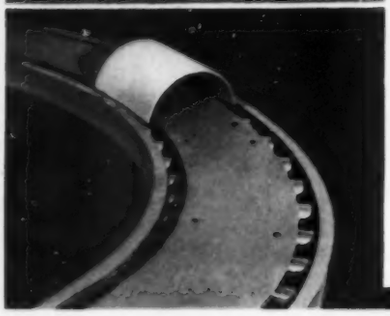
'MULTIFORM' RADIAL ROUTER

For Straightline and Fine Detail Routing
Patented Straightline Control Feature

J. A. RICHARDS COMPANY

903 N. PITCHER STREET • KALAMAZOO, MICHIGAN





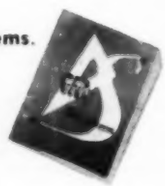
Prime mover for NEWSPRINT ROLLS OR STEREOPLATES

Up...down...or horizontal—whatever your conveying problem, there's a Gifford-Wood unit or system *already in use* that comes close to meeting your problem.

For years G-W has solved big specialized handling jobs for newspaper plants. Electric and pneumatic drops and lifts for newsprint rolls (top photo)...horizontal conveyors...and automatic interfloor handling systems for stereoplates (bottom) have all been built and installed in the plants of daily newspapers and leading printers. And all are operating successfully today, with speed, efficiency, savings, and complete protection for paper rolls and stereos.

Ask a good engineer about Gifford-Wood conveying systems for newsprint, stereos, magazines, mail sacks, bundles, or broke. Then write for full details on actual G-W installations.

Free! Idea Book **on engineered materials handling systems. Ask your nearest G-W office.**



GIFFORD-WOOD CO.

Since 1814 • Hudson, New York

New York 17, N. Y. — 420 Lexington Ave.
St. Louis 1, Mo. — Railway Exchange Bldg.
Chicago 6, Ill. — 565 W. Washington St.

3120

"This worked for a man. Call me if you need women".

In the field of creative salesmanship where something is given to get something, there was the case of the folder of a menu for children. The outside, very attractively done, bore a fairy tale design, and inside the spread, there appeared a holder for a short pencil and a series of three completion games at the top for children. Below the games were printed a few very simple child's menus.

Yes, the gimmick has come of age. There was shown a biscuit folder of the pop-up variety consisting of an accordion folded 10 page series of cookie displays and above them a cooky of the more interestingly curved variety. The boxes containing the crackers pop-up when the folder is opened providing motivation. A whiskey folder is of the same design, only much more elaborate; a bar and backbar display, showing their product, naturally, pop-up when this four-page affair is opened.

Pop-Ups in Ads

Pop-ups represent movement. "These gimmicks talk within the framework of reference", said Thomajan. "They render a service to the recipient."

Search through antique shops or junk shops will often uncover some of these items that could be put to use. A trip through a five-and-ten for instance, evoked the idea of transforming a pair of sunglasses with white, wide rims, into the word, L O O K, a very effective piece of advertising for *LOOK magazine*. Another was the three postcards, sent in different mailing, which, when put together, end by end, formed a large dachshund.

Graphic realism was found in the open eyed child whose whole complexion changed when a tab is pulled down and the child cries. The caption reads, "Don't bawl later; buy somebody's baby food now".

Another energized display carries three questions. Placing the attached-to-the-ad pencil against the correct answer causes the top of the pencil to light up.

These were some of the forceful manners in which color has been employed to help creative advertising.

R.o.p. Color Printing

Color is also playing a tremendous part in newspaper advertising. Steve Lambert, supplementing Jack Lomax, told of an experience in color newspaper printing in which, before the close of the business day in which a color ad appeared in the daily newspaper, the store cleared out all merchandise advertised.

Yet out of town papers make greater use of color. The Milwaukee (Wis.) *Journal*, forerunner of the r.o.p. color printing, started with advertising some items that could not be moved from the shelves. The first color run in the *Journal* provided amazing results; the articles were moved in 24 hours.

There have been wide improvements since those early days. At present, use is made of a treated mat, (a makeready mat) used in the regular press run simultaneously with news ads in black and white. A Lake Shore Electrotype patent makes possible a direct cast which permits a correct reproduction from the original art work.

Lomax, calling r.o.p. a "natural and a real money maker" showed sheets of full page ads in four color of *Guys and Dolls* and other color sections. It was pointed out that with no four color newspaper units available in New York, N. Y., the interest in r.o.p. was not so great. But there had been a trial run by the New York (N. Y.) *Tribune*.

Proper Understanding Necessary

Problems introduced by the method consist of getting the proper dot construction in the engraving, thus permitting proper reproduction in the mat and the stereo. A big factor lies in the avoidance

Vandercook *Lite-Base*

guarantees permanently accurate mounted plates and helps printers reduce pressroom delays and improve quality!

The old and costly problem of delays in pressrooms—due to unstable and inaccurate mounted plates—can be quickly and economically solved by mounting plates on Vandercook "*Lite-Base*" instead of wood. For printers with sufficient volume, it is more efficient for them to mount their own plates.

Vandercook "*Lite-Base*" is cast from type metal that can be recast over and over again. With the efficient equipment made available by Vandercook, one man can easily produce fifty "*Lite-Base*" casts (12″ x 18″) in eight hours. The remaining operations necessary to mount plates on "*Lite-Base*" are practically the same as flush mounting on wood.

Write . . .

for more detailed information

This new circular fully describes Vandercook *"Lite-Base"*—how it is cast, how plates are mounted, and the equipment necessary.

VANDERCOOK & SONS, INC.

General Offices, Research Laboratory, Demonstration Room & Factory
3601 W. Touhy Ave., Chicago 45, Ill. Phone: ROgers Park 1-2100
Eastern Office & Demonstration Room
323 E. 44th St., New York 17, N.Y. Phone: MUrray Hill 4-4197
Western Office
3156 Wilshire Blvd., Los Angeles 5, Calif. Phone: DUnkirk 8-9931

the world is so full of a number of things . . .

that are numbered better with a WETTER ROTARY NUMBERING MACHINE!

Right-Angle Rotary Machine

a WETTER Rotary gives you plenty of SAS* —always!

This curved-faced rotary machine is built to imprint numbers at right angles to the axis of the impression cylinder. Note barrel-shape of number wheels. Cam-actuated—heavy duty construction assures accurate, clean numbers even at highest press speeds. Available in Roman or Gothic style figures.

- ***SPEED** — keeps pace with the fastest rotaries.
- ***ACCURACY** — in numbering sequences — in alignment of figures.
- ***SHARPNESS** — in impressions.

Write for free descriptive folder today.

1641

WETTER NUMBERING MACHINE CO.
ATLANTIC AVENUE & LOGAN STREET · BROOKLYN 8, N.Y.
ONLY UNION MADE NUMBERING MACHINE IN U.S.A.

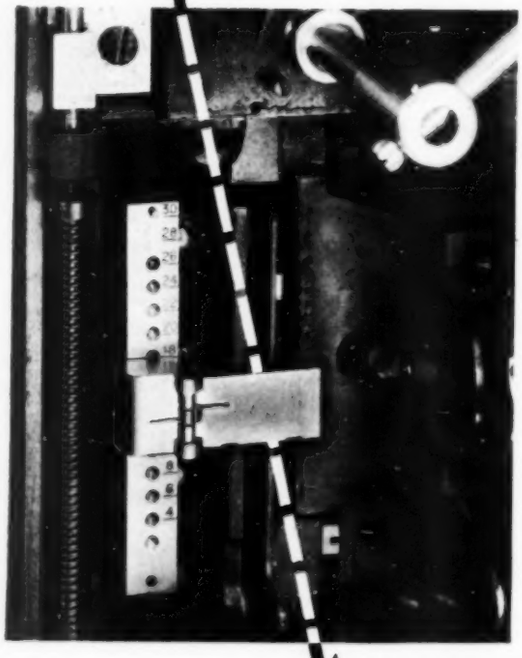
STAR ADJUSTABLE SLUG TRIP AND BUFFER

The new STAR Adjustable Slug Trip and Buffer assures proper delivery of slugs to the galley. A leather buffer on a hinged gate trips the top of the slug slightly as it is ejected, eliminating all resistance on its way to the galley.

The slide block is instantly adjustable, by finger pressure, to any desired measure. It is held in position by a spring-loaded ball.

Neither the trip gate nor the face of the slugs can be damaged by a jam in the chute. The gate swings open under pressure, and automatically returns to closed position when the trouble has been cleared up. The leather buffer can be replaced instantly.

Can be applied to all Linotypes and Intertypes with outside galleys. When ordering, give machine model number and indicate whether for 30- or 42-pica machine. Write for more details and new folder now available. STAR Part No. M-21.



HINGED BUFFER GATE

STAR PARTS, Inc.
SOUTH HACKENSACK, N. J.
Precision TRADE ★ MARK Parts
BRANCH: 1327 BROADWAY, KANSAS CITY, MO.
AGENCIES
CHICAGO · MINNEAPOLIS · LOS ANGELES · DENVER · BOSTON
CANADA: SEARS LTD. AND AGENTS OVERSEAS

of too much color and knowing where to avoid color. Dead metal routing calls for much labor not needed when the plastic mat is used. Three-color work is more common with black used for lettering and line touches. Plastic mats are latest development and help with them is promised by Lomax to anyone for the asking.

Same color copy used in magazine advertising can be used for r.o.p., proof being shown of the same ad, printed from the same copy by the two mediums, the magazine in 110 screen with the newspaper in 65 line, (the latter not being a blowup but separately shot).

Scanners are used to produce separations, saving considerable time. The Miami (Fla.) *Herald* is at present running full page four color ads and doing an excellent job.

Lambert, calling Perry Long on the West Coast the best four color platemaker in the country, admits there is a variance over the different parts of the country. To correct this situation the ANPA and the AAAA have gotten together in their Joint Committee on Newspaper Printing to recommend standard colors and standard plant procedure for r.o.p. color printing. Report No. 6 on plant procedures and No. 7 on standard colors is their latest work in this field.

Needless to say something as new as this has aroused the age old controversy on plates. The engraver contends he is doing the best with poor art work and the pressman complains of the poor result from the plates furnished him. However, with close cooperation between the engraver and the pressroom, with recognition of the limitations of each branch and subsequent steps to make allowances and provisions for them, (such as avoiding work in areas in some colors, etc.), will come a workable process.

All three speakers, practical men in their field gave ample evidence of their desire to spread knowledge of the work being done in color in their line, and, more than that, their deep yearning to improve the quality of work and craftsmanship.

Acme-NEA and Wire Coating Agree to Pact

A new marketing arrangement which will reduce the cost of producing fast-etched printing plates from zinc-coated magnesium has been announced jointly by Acme Telectronix Div. of NEA Service and the Wire Coating & Mfg. Co., both of Cleveland.

The new policy results from successful conclusion of patent negotiations between the two companies. The net effect will be to enable the engraving industry to take full advantage of the lowered production costs made possible by the new process.

Of prime interest to the industry is that the special chemical etchant used in the process will be reduced in cost by approx. 40%. Users will now be able to purchase the chemicals in bulk form.

Both Acme Telectronix and the Wire Coating Company will market zinc-coated magnesium plates. Acme's Z-M Plates, already on the market, will be continued under the same trade name. Wire Coating will manufacture and distribute under the trade name Zinkote Plates.

Both companies will sell etching machines for use in the process. Wire Coating produces the Etchmaster, of which several are now in the field and others on order. Acme Telectronix produces the Acme One-Bite Etcher, of which there are now 28 in the field and others in the process of installation.

The new arrangement climaxes months of negotiations to iron out patent and marketing complications.

Heads of the two companies—Fred S. Ferguson, president of NEA Service, and Robert T. Hendrich, president of Wire Coating—expressed gratification at completion of the negotiations.

"I'm no engraving expert," Ferguson said, "but I can read a cost sheet and I know what it means in our own engraving shops to be able to etch halftones, line or combination plates in one single operation; to eliminate powdering, and to attain sufficient etching depth to eliminate most of the routing. The new process has increased our production and lowered our unit costs. Now we have a clear field to offer the same advantages to others in the industry."

The new arrangement is the culmination of more than five years of research which began when W. F. Alexander, engraving superintendent of the Cleveland *Press*, conceived the idea of combining the advantages of both zinc and magnesium in a single printing plate. First efforts were confined to conventional powdering and etching methods. Later, through cooperation of the Wire Coating Company, a chemical etchant was evolved which was capable of forming its own protective bank as it etched. A special machine was then designed and built to take advantage of the special etching properties of the chemicals and bi-metal plates. The result was the present process, with which halftones are made in about 5 min. and line or combination plates etched to a depth of 0.035 in. to 0.040 in. in 15 to 20 min.

Graphic Arts Equipment Expands—Graphic Arts Equipment Co. has enlarged its present quarters on W. Harrison St. in Chicago. The entire second floor of the present building will be devoted to displays of equipment and supplies for printers. Graphic Arts Equipment is the type dealer in Northern Illinois for American Type Founders and represents other makers of Graphic Arts equipment and supplies.

Filmotype's "Pays-for-Itself" Plan

Really Does!

"With the Filmotype Photo Composition Machine, we offer finest professional quality lettering and display type to attract more business . . . and it does!"
says: Hans Henkel,
Vis-O-Graphic Printing Co. Chicago, Illinois

Mr. Henkel's success with Filmotype is repeated hundreds of times in both small and large printing plants. And with the unique "Pays-For-Itself" Plan, you can use a Filmotype, the most popular photo composition machine in America—without investment!

Filmotype is easy to use! Produces headings usually costing dollars for pennies!

- Over 1,000 styles and sizes of lettering and type to choose from
- Almost instantly, anyone can produce sharp, black proofs ready for paste-up
- Desk-top size . . . fits on any table . . . no special facilities needed

Get Complete Details . . . Mail this Coupon Today!

The FILMOTYPE Corporation
60 W. Superior
Chicago 10, Illinois

☐ Send information about the "Pays-For-Itself" Plan and the Filmotype Photo Composition Machine.

☐ Have your representative give me a demonstration right in my own office. I understand there is no obligation.

NAME_____

FIRM_____

ADDRESS_____

CITY_____ ZONE____ STATE_____

Equipment Sales and Installations

Reports

Wood Installations

Increasing circulations of the Spokane (Wash.) *Spokesman Review* and the *Daily Chronicle* made it necessary to place an order for additional stereotype equipment with Wood Newspaper Machinery Corp. Order consisted of two Heavy Duty Pony Autoplate Machines with an 8 T. electric furnace and two Tension-plate Automillers, one equipped with pre-registering attachment.

As part of a conversion program involving both its New York and Brooklyn plants, *The News*, New York, N. Y., has increased its reelroom facilities by a recent purchase of additional equipment manufactured by Wood Newspaper Machinery Corp. Eighteen Standard Wood Reels, 18 Wood Pneumatically controlled 4-Belt Stationary Strap Tension, and 18 Wood Automatic Thymotrol Autopasters are to be installed. This additional equipment will make a total of 68 Wood Reels, Tensions and Autopasters in the *News* plants. When the expansion program has been completed, *The News* will be equipped to print nine daily editions of 2 million papers and a Sunday edition of about 4 million, exclusive of black and white, comics, and rotogravure sections.

•

Lawson Installations

Machinery installations recently reported by the E. P. Lawson Co. are listed as follows:

Lawson 55-*T*-77 *with Air Cushion Device:* Garden City Envelope Co., Chicago; Minnesota Mining & Mfg. Co., Bristol, Pa.

Lawson 55 *in. Series V-65 Hydraulic Clamp Electron.c Spacer Cutter:* Paper Converters, Inc., Appleton, Wis.; Western States Envelope Co., Milwaukee, Wis.; Millers Falls Paper Co., Millers Falls, Mass.; Parsons Paper Co., Holyoke, Mass.; Colwell Press, Inc., Minneapolis, Minn.; C. J. Krehbiel Co., Cincinnati, O.; U. S. Navy Pub. & Prtg. Office, Great Lakes, Ill.; U. S. Prtg. & Lithograph Co., Cincinnati, O.

Lawson 52 *in. Series V-65 Hydraulic Clamp Electronic Spacer Cutter:* E. I. du Pont de Nemours & Co., Parlin, N. J.; The Otterbein Press, Dayton, O.; Monitor Publications, Denver, Colo.

Lawson 46 *in. Series V-65 Hydraulic Clamp Cutter:* Grand Rapids Paper Co., Grand Rapids, Mich.

Lawson 39 *in. Heavy Duty Automatic Clamp Cutter with Spacer:* Braun-Brumfield Co., Ann Arbor, Mich.; Eason Printing Co., Chicago; Iverson Printing House, Chicago; Overt Press, Inc., Chicago.

Lawson Model S Multiple Head Drill: Crown Sample Card Co., New York, N. Y.; Garber-Pollack Co., New York, N. Y.; Finance & Accounting Div., Ft. Worth General Depot, Ft. Worth, Tex.

Other recent installations of the E. P. Lawson Co. are as follows:

Lawson 52 *in. Series V-65 Hydraulic Clamp Air Cushion Device:* Practical Bookbinding Corp., New York, N. Y.; Stecher Traung Lithograph Co., San Francisco; International Paper Co., Mobile, Ala.

Lawson 55-*T*-77 *with Electronic Spacer and Cutter:* Beisler, Weidmann Co., Inc., Belleville, N. J.; Matheson-Higgins Co., Cambridge, Mass.; Chemical Paper Mfg. Co., Holyoke, Mass.; Ivy Hill Lithograph Co., New York, N. Y.

Lawson 55 *in. Series V-65 Hydraulic Clamp Cutter with Air Cushion Device:* Curley Printing Co., Nashville, Tenn.; Hudson Valley Paper Co., Albany, N. Y.

Lawson 46 *in. Series V-65 Hydraulic Clamp Electronic Spacer Cutter:* Kansas Bank Note Co., Kansas City, Kan.; Miller Printing Co., Asheville, N. C.

Lawson 39 *in. Heavy Duty Automatic Clamp Electronic Spacer Cutter:* P. Lorillard Co., Greensboro, N. C., Atlantic Refining Co., Inc., Philadelphia; Globe Albums, Inc., Bronx, N. Y., Armitage Printing Co., Chicago, Ill.; William C. Brown Co., Dubuque, Ia.; Otterbein Press, Dayton, O.; Greene Manufacturing Co., Brookline, Mass.

Lawson Series B 3-*Knife Rapid Trimmer:* Concordia Publishing House, St. Louis, Mo., Sender Bindery, Inc., New York, N. Y.

Miscellaneous: Lawson Model S Multiple Head Drill at Buxton & Skinner Co., St. Louis, Mo. Lawson Model S Multiple Head Drill & Slotter at Simpson Paper Co., Everett, Wash.

•

Goss Installations

Two additional Headliner press units and one color cylinder have been ordered by the Des Moines (Ia.) *Register* and *Tribune* from The Goss Printing Press Co. This will make a total of 14 Headliner units, eight color cylinders and four Uniflow folders in the *Register-Tribune* plant, besides Goss Anti-Friction newspaper presses and an eight cylinder Goss multi-color press. The morning and Sunday *Register* and the evening *Tribune* are among the national leaders in r.o.p. color linage and editorial use of color.

The purchase of a four unit Goss Headliner press has been announced by Mrs. Homer Gard Gramm, publisher and chairman of the board of directors of the Hamilton (O.) *Journal-News*. The installation will have a color half-deck and Goss reels and tensions. Included in the modernization program are newsprint handling system, improvements in the composing room and enlargement and rearrangement of business, circulation and editorial offices.

The St. Paul (Minn.) *Dispatch-Pioneer Press* has ordered a new Goss Headliner Press, manufactured by The Goss Printing Press Co. Purchase was necessitated by the ever-increasing rate of both circulation and ad lineage in the rapidly expanding city of St. Paul. Additional equipment will consist of six Headliner press units, one half deck, a double half deck, and a double delivery folder. The units will be equipped with Goss reels-tensions-pasters, and printing cylinders will have Goss tension plate lockup.

Lithoplate Representatives—Bert L. Menne, vice president of Lithoplate, Incorporated, announced appointment of Sidney Martin as technical field representative for Harris-Seybold chemicals being distributed in the western area by Lithoplate. Martin will cover 11 western states.

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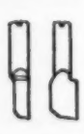

Router Bits

Saw and Trimmers

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APPM Elects Officers—The Association of Publication Production Managers recently elected officers for 1957 as follows: Secretary is James M. Blackwell, assistant production manager of Street and Smith; treasurer is Judson K. Mulford, production manager of *American Journal of Nursing*, and the president is John J. Canfield of *Look* magazine. Canfield has been with *Look* for 14 yrs.; five of them in the production department.

CANFIELD

Filmotype Acquires Site—Filmotype Corporation has announced the purchase of 30,000 sq. ft. of land in Skokie, Ill., for the erection of a one-story, 15,000 sq. ft. plant scheduled for completion in June. Features include a photographic laboratory and in-plant traffic system. A product development department will also be included.

"it's the IA in LA in 1956"
37th ANNUAL CONVENTION
OF THE INTERNATIONAL ASSOCIATION
OF PRINTING HOUSE CRAFTSMEN, INC.
AUGUST 12—15 • LOS ANGELES • BILTMORE HOTEL

IPI Represents Mercury Products—Rapid Roller Co. has announced the signing of an agreement with the Printing Ink Div. of Interchemical Corporation for the exclusive handling of its Mercury Rollers and Blankets on the West Coast. All future orders for Mercury Blankets and Rollers should be sent direct to the nearest IPI branch. B. P. Nilles, Rapid Roller president, stated Rapid will cooperate with IPI in giving additional technical service.

Look Develops Coated Paper

Working closely with one of its paper suppliers, Blandin Paper Co. of Grand Rapids, Minn., and with its letterpress printer, R. R. Donnelley & Sons of Chicago, *Look* Magazine has developed a new coated paper for black and white and two-color letterpress printing.

A new coating process is utilized. The coating process, it is said, produces a levelness and completeness of coating which give great clarity and sparkle to black and white and two-color with a high degree of opacity. With the development of the new coated paper, *Look*, effective with the May 15 issue is now being printed entirely on coated stock.

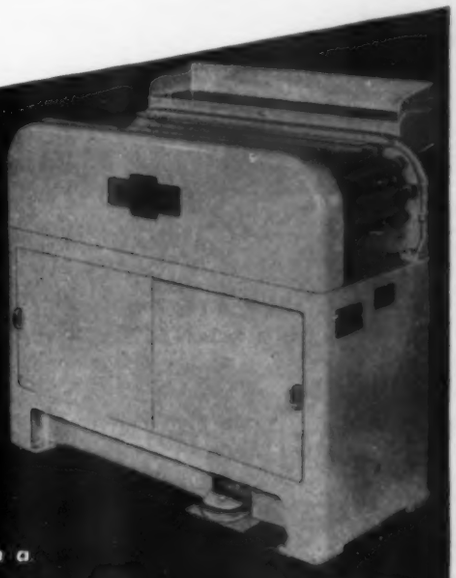
Linotype Among Winners—Seven of the 11 winners in the N. W. Ayer newspaper contest are set in Linotype body faces for the third successive year, says Jackson Burke, director of typographical development, Mergenthaler Linotype Co. As in the 1954 and 1955 contests, Corona and Excelsior type faces were employed. The Rutland (Vt.) *Herald* won the Ayer Cup for excellence in typography, makeup and printing; the Montgomery (Ala.) *Advertiser* won first honorable mention for papers of more than 50,000 circulation; the Iron Mountain (Mich.) *News* won first mention in the 10,000 to 50,000 circulation class; and the Ironwood (Mich.) *Daily Globe* won first mention in the 10,000 circulation group.

Sources of Safety Data

(From Bulletin published by Intl. Typographic Composition Assoc. The suggestion presented here is taken from *The Safety Manual for the Graphic Arts Industry*, published by the National Safety Council.)

Make sure that information on avoiding accidents is available and is read by men in charge of line-composing machines. Available sources of information include: *Linotype Machine Principles*, published by the Mergenthaler Linotype Co., Brooklyn; *The Intertype Book of Instruction*, published by the Intertype Corporation, Brooklyn; and *Ludlow Manual of Instructions*, published by the Ludlow Typograph Co., Chicago.

If you need...



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There's no sacrifice of quality when you rush proofs on a WESEL EPP-4 proof press. Its smooth performance results from the same careful engineering that provides trouble-free operation with only a minimum of maintenance. The new EPP-4 features heavier construction, quieter operation and an improved platen inking system. Equipped with mechanical safety guards and automatic stopping.

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Equipment & Supplies

(Continued from Page 92)

is transparent and the Permacel 951 is available in red, black, white and chrome, a metalized finish. The one mil Mylar film backing of the tape is said to be treated to permit high speed aniline and oil base ink printing. Permacel 95 and 951 tapes are said to be resistant to moisture and heat, and the Mylar backing is resistant to most common acids and alkalis as well as solvents and oils. Characteristics of the tape are: 20 lbs. per in. width tensile strength; 18 ozs. per in. width adhesion to steel and 70% elongation. They are available in sizes from ¼ in. to 23 in. For further details, please mention PEE No. 141 in your request.

For Work-and-Turn Printing

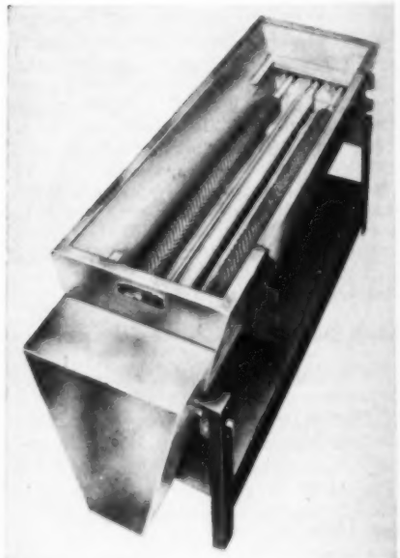
Trik is the name of a quickset ink conditioner developed by Central Compounding Co. Formulated for use with either letterpress or offset printing, the product has been extensively tested under regular production conditions. According to manufacturer, when added to well known printing inks, Trik permits work - and - turn printing without danger of crystallization, sticking and heating. It is said to remain stable indefinitely.

Further properties of Trik, it is said, are that it will actually protect delicate tints against discoloration, it is touch-dry almost immediately, aids lift, and sharpens impressions. Trik is suitable for multicolor printing and an aid for trapping. It will hold ink open on the press and permit overprinting even after long delays. Adhesion is excellent. Trik can be mixed readily in the fountain. It is compounded for scratch and mar resistance and will lessen surface glaze on rollers.

Manufacturer states that as a result of many field trials, it has been determined that in most cases the prints have been rendered touch-dry without spray or flame. When large solids were involved, a very light spray could be used. The procedure used mostly in field trials was to back up the morning run in the afternoon, although second colors could be run sooner without smearing. Regardless of the amount of Trik added to the ink, it is further stated, there is no danger of subsequent colors not trapping even after long delays. Amounts of up to 40% have been added in test runs without danger of crystallization or drying on the press.
For further information, please mention PEE No. 138 in your request.

Dampener Roller Washer

The Bar-Plate Mfg. Co. recently announced an offset press dampener cleaner. The Bar-Plate Dampener Cleaner is for cleaning dampeners and for breaking in and revitalizing the surface of dampener rollers. A series of cylinder brush rollers and solid aluminum rollers is incorporated in the cleaner. The two outside cylinder brush rollers in combination with the solid roller are designed for arranging, cleaning, sizing, lint removing and brushing the dampener cover. A dynamic balance is used to distribute the weight evenly from the axis of the roller core. The cleaner is provided with du Pont Tynes Nylon bristles. The sizing operation is said to eliminate wrinkles,



The Bar-Plate Dampener Cleaner is designed for cleaning dampeners and for breaking in and revitalizing the surface of dampener rollers.

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Every combination of gauges is available. You will find the exact thickness, resiliency and surface qualities required for your presses.
We also suggest that you investigate "Tingulok"*—the improved system of applying blankets. "Tingulok" assures perfect alignment, eliminates creeping and permits faster application than any other method.
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PUBLISHER SAVES 56% ON CASTING COSTS WITH NEW KEMP OVAL STEREO POT

Fuel Savings alone amount to $185.83 per month with Kemp Unit.

By installing Kemp equipment, this Canadian publisher reduced his cost per plate from 3.34c each to 1.46c...*a 56% saving*. Fuel savings amounted to *$185.83 per month* during the first twelve months. Also by casting at a *faster* rate with *less* spoilage, overtime costs have been slashed substantially—$4,000 were saved in the first year.

IMPROVED WORKING CONDITIONS

Casting room temperatures have *declined* from an average of 100-105 degrees to 80 degrees or lower. And instead of drossing 3 times a week as formerly, drossing is now done *once* a week with a *66% reduction* in dross losses. Another case where Kemp Engineering delivers the goods in terms of dollars saved for its customers. Why not find out how Kemp can save you money, too?

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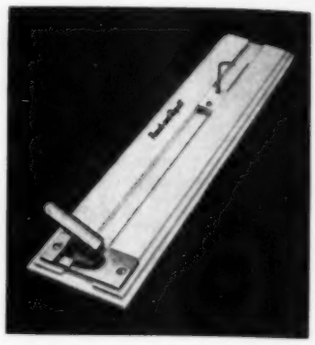
bumps or hickies. After the water is drained out, a water removable action is provided in the design of the cleaner.

Operation involves filling a tank with either cold or warm water to approx. the halfway mark of the cylinder brushes; the addition of a detergent, and the pulling of a switch. In 1 min. to 5 min. the dampeners have been processed. The water is then drained out, and the dampeners rinsed for 1 min. to 2 min. Further running of about 1 min. will remove excess water. The Bar-Plate Dampener Cleaner is constructed of stainless steel with welded joints. All internal and water contact surfaces are said to be corrosion resistant, made of either stainless steel, bronze or aluminum. A gate valve is provided at the bottom of the tank for drainage. Size required is determined by the overall length of cover and core of the longest dampener. Special sizes will be made to order. Except for the Bar-Plate Pee Wee Dampener Cleaner, all models are floor models. The Pee Wee model is designed for small offset presses. For further details, please mention PEE No. 136 in your request.

Punch and Repeat System

The ByChrome Punch and Repeat System, manufactured by the ByChrome Company, is a system for positioning, aligning and registering copy for exposure to the plate in all types of photocomposition from single color to multicolor work. The system depends on use of master and negative spacing strips which are punched with identically-spaced control holes and locked together with plate and negative in between, by means of index pins. A machine for punching the control holes is supplied, together with master and negative



spacing strips. The plate, or similar sensitized surface, is affixed with tape to the master spacing strip, while the duplicate spacing strip is affixed to the masked negative and placed over the master. When the control holes in both strips are engaged by the index pins, the plate and negative are held to hairline register. The punching machine is calibrated in 32nds in. and is designed to provide accuracy to within less than 0.001 in. in master and negative spacing strips, says the sponsor. For more information, please mention PEE No. 139 in your request.

New ATF Type Face

American type Founders describes its newest type face, Murray Hill, as "free flowing, informal hand-written

Scorpio... Wonde

letterform, suitable for display lines in advertising typography as well as for wide use in a great variety of job printing." Available in 14 pt. to 72 pt., the type was designed by Emil J. Klumpp, well-known American graphic artist and lettering designer, who hailed this as a "break-through for modern American Artists to design United States looking letters." For more information, please mention PEE No. 145 in your request.

Swiss Electronic Engraver

The Elgrama Electronic Engraving Machine, which will be on display at the ANPA Mechanical Conference Equipment Exhibition in Dallas, Tex., June 4-6, is a Swiss-built unit being distributed in the U. S. by Federico K. Hutzler. It will produce halftone and color process plates on either zinc, copper or plastic plates, and line cuts on plastic plates. Overall dimension of the machine are 62 in. by 26 in. by 50 in. It weighs approx. 1000 lbs. Each machine is equipped with cylinders for plate sizes of 8.26 in. by 11.8 in.

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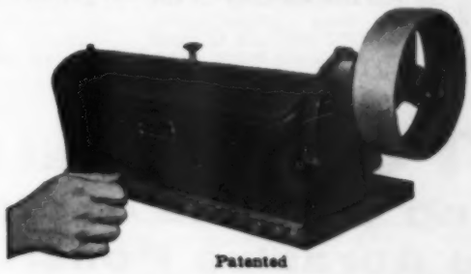

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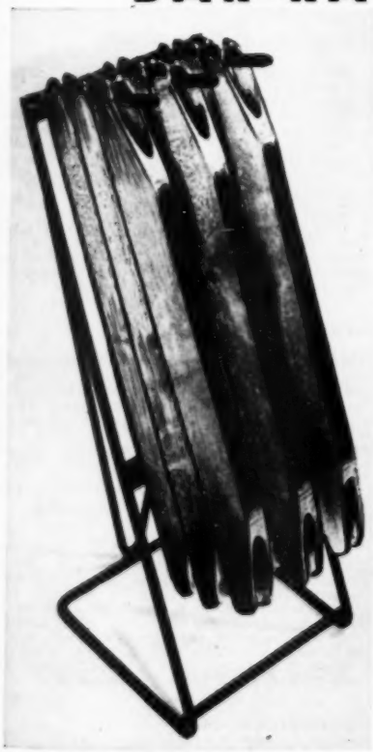

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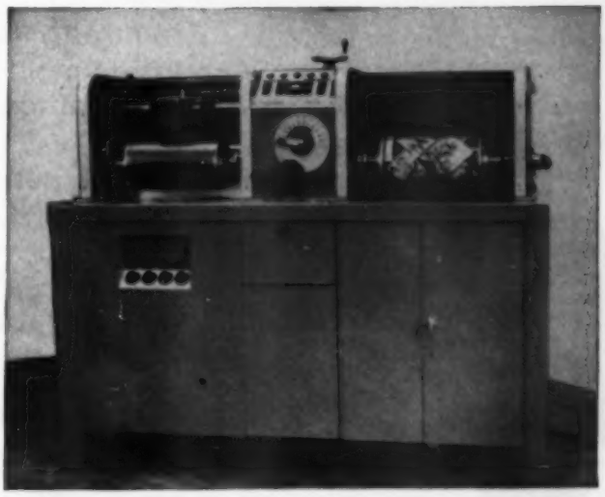

A single machine produces

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13 different screens from 50 to 200 lines per inch available which can be selected by simple lever control.

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up to 11.8 in. by 16.53 in. Zinc and copper plates of 0.020 in. to 0.040 in. thickness are used. Plastic plates usually employed are 0.040 in. thick. In the machine is utilized a gray scale of eight steps and original copy can be modified in the engraving process to bring out light or dark areas. By level control, 13 different screens from 50 to 200 lines per in. can be obtained. Engravings for color reproduction are made by scanning color separation copy at varying angles. A set of four-color halftones up to a size of 4.72 in. by 6.3 in. can be made on the same plate in one operation within 80 min., by utilizing the full size capacity of the machine. For more information, please mention PEE No. 134 in your request.

Soft Water—Demineralized soft water, said to be equivalent in ionic purity and softness to triple distilled water, is now available from the tap with the Enley Pup unit, introduced by Enley Products, Inc. The Enley Pup, with mixed resin within the reactor consisting of a mixture of equal quantities of exchangers, can be attached to any water outlet. It is constructed of Acrylic plastic and is available in various sizes to provide from 300 gal. to 3000 gal. of mineral free water before regeneration and up to 12,000 gal. when used in series. Construction of the Pup permits exhausted ion-exchange material to be regenerated by the user or refilled with fresh material. Rubber tubing outlets are provided and units can be secured to floor, table or any flat surface. For further details, please mention PEE No. 140 in your request.

Proportioning Rule

The Calculaide Proportion Rule is a series of concentric circular scales which can be used to make calculations involving ratio and proportion; reduction and enlargement. It is intended for use by platemakers, printers, estimators and production men. In this rule, developed by American Hydromath Corp., is also incorporated a circular slide rule with inch and pica scales along its edges. The reduction and enlargement scales are calibrated in inches and fractions of inches; the slide rule scales are calibrated in inches and decimals. Overall size of the rule is 8¼ in. square. It is made of Vinylite plastic. All markings are laminated into the body of the plastic. It is relatively unaffected by moisture, perspiration or ink and can be cleaned with a damp cloth. For more information, please mention PEE No. 135 in your request.

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Literature

(Continued from Page 40)

is also illustrated. For a copy, please mention PEE No. 164L in your request.

CYCLIC LUBRICATION SYSTEM

Cyclic-type automatic lubricators, driven by the machine they lubricate, are described in a two color, two page service instruction sheet offered by Bijur Lubricating Corp. Designated Type P, this lubricator is adaptable to a wide range of machinery including printing presses. In the instruction sheet are discussed operation, maintenance and service. A detailed schematic drawing is used to illustrate the operation and components of the lubricator. Sixteen types of Bijur Meter-Units are shown in illustrations, along with four specification tables for flexible hose fittings, tubing, compression fittings and junctions used in Bijur distribution systems. For a copy, please mention PEE No. 165L in your request.

MEAD OPAQUE

A four page, double fold bulletin printed on and in which is described Mead Opaque has been released by The Mead Corporation. To illustrate the qualities of the Mead Opaque, a black and white and a four color illustration are included. Also included is a list of applications and a standard stock list. For a copy, please mention PEE No. 166L in your request.

STORAGE EQUIPMENT

A 16 page catalog concerning Foster offset and letterpress storage equipment, Catalog No. 26, has been released by Foster Manufacturing Co. Such items as galleys, offset plate racks, art and negative cabinets and magazine racks are included. The specifications and price of each item is given, and for much of the storage equipment, a large illustration is included. For a copy, please mention PEE No. 167L in your request.

DEHUMIDIFICATION

Information Bulletin 496, containing facts about dehumidification, has been released by Abbeon Supply Co. The six page bulletin is descriptive of what humidity is and what it does. Answers to the ten dehumidification

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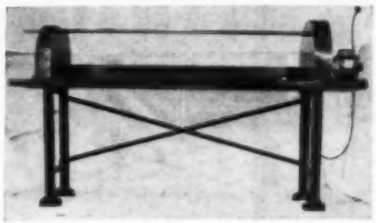
A Machine *Engineered* To Strip Cores



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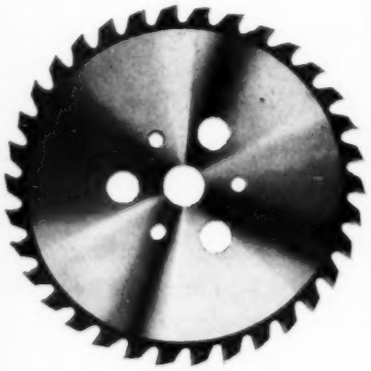

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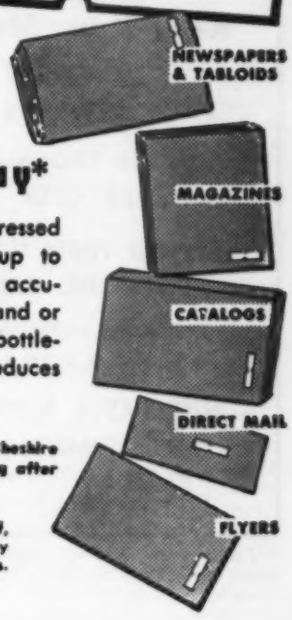
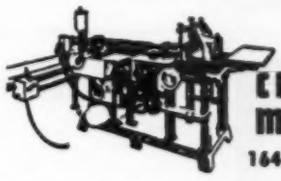


- Automatically attach addressed labels at operating speeds up to 18,000 per hour. Faster, more accurate than any other method, hand or machine. Opens mail room bottlenecks, maintains schedules, reduces subscription complaints.

100,000,000 mailings per month on Cheshire machines. Earlier models still operating after 28 years' constant use.

* An addition to, not a replacement of, your present addressing system. Apply roll strip or continuous pack form labels.



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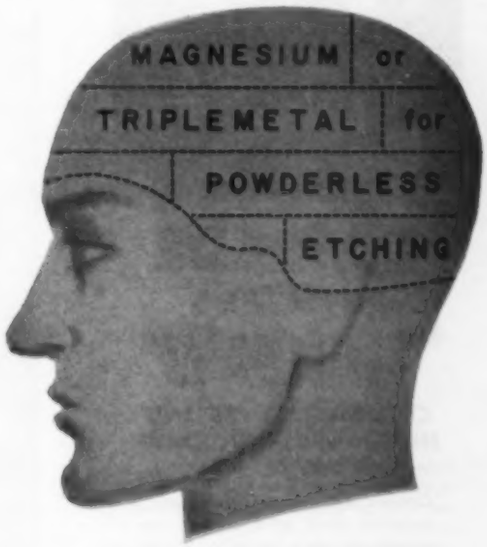
1644 N. Honore St., Chicago 22, Ill.



The answer is either or *both*. Edes magnesium has been thoroughly proved in this new process. And Edes Triplemetal is the *premium* zinc for powderless etching (conventional etching, too) selling at the *regular* zinc price.

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questions that have been most asked of Abbeon in the last 15 years are listed. The dehumidifying equipment is illustrated and described and complete specifications are given. Also contained in the bulletin is a chart of recommended humidities. For a copy, please mention PEE No. 168L in your request.

RECORDING SPECTROPHOTOMETER

The G.E. Recording Spectrophotometer for color measurement, analysis, and control is illustrated and described in an eight page bulletin released by General Electric Co. The color measurement instrument is useful in plants for setting up color standards and controlling the color of inks. Also included in the bulletin are specifications, operational data, applications and a bibliography on the instrument. For a copy, please mention PEE No. 169L in your request.

COUNTER CATALOG

Stroke and revolution counters with count life ratings from one billion to three million, are described in an eight page catalog released by Production Instrument Co. In Catalog M 200 are also shown special counter assemblies for built-in application as well as an assortment of individual number wheels, reset gears, shafts, etc. Each of the models is illustrated and specifications and features are listed. For a copy, please mention PEE No. 170L in your request.

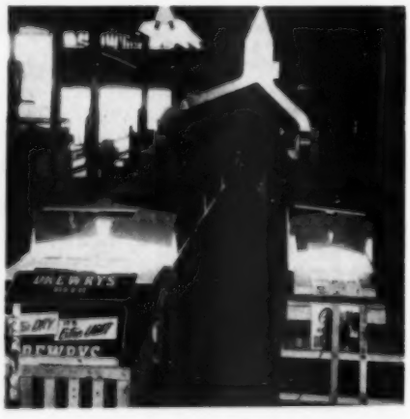
LITHOPRINT EQUIPMENT

A small size, 6 page bulletin about the Miehle 17 Lithoprint plus Direct Image Paper Plates has been released by The Miehle Printing Press and Mfg. Co. Operational features of the Lithoprint such as the Miehle Fount, a sheet thickness gauge and a control panel, are described. Various methods of preparation of the Direct Image Plate are listed and described. For a copy of the two color bulletin, please mention PEE No. 171L in your request.

ANPA Reviews

(Continued from Page 62)

the series on r.o.p. color, was mailed to members April 25. This report deals with the Proper Preparation of Copy, Art and Photography (see below). A Joint Report dealing with Preparation of Engraving and Duplicating Materials will be issued later. It is now being worked on by the



At Drewry's Ltd., South Bend, Ind., Fostoria Pressed Steel Corp. infrared radiant drying ovens are used to speed up drying of silk screen signs and posters. In one oven, the rate is 550 sheets, measuring 22 in. by 28 in. dried in 1 hr., using a 1 min. time-temperature cycle; in another oven, the rate is 480 sheets measuring 28 in. by 44 in. dried in 1 hr., or 960 sheets 22 in. by 28 in., using the same time cycle. Day-Glo colors are handled without injury to fluorescent materials and all weights of paper up to 50 pt. stock are processed in the same manner.

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Cleaner cuts, freedom from burrs, excellent back rake cutting, no scream, no chip throwing. Trimmer blades not being used with those now in service and apparently can be eliminated. Sharpening service available. Patented design holds tips securely.

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That is the question!

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Amsco's Combination Stereotype Chase will take either 8 or 9 columns and give the maximum in strength and durability.

A chase is more than a frame to lock type in. It is a piece of stereotype equipment that must have bolsters and/or lines to the proper specifications to work with the casting box.

If you are considering a change you may not need new chases. We may be able to rework your chases to the new size.

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Long Island City, N. Y.

Florida Firm Installs Lithoprint—St. Petersburg Printing Co., Inc., St. Petersburg, Fla., recently completed the establishment of an offset department with the installation of a Miehle 17 Lithoprint. Established in 1932, the firm now handles a large volume of publication, phone directory, bookbinding, and commercial printing work. In the past year the company has increased its floor space by one-third. Pictured in a corner of the offset department is Edward M. Wilmot, jr., pressman, running the Miehle Lithoprint.

Joint Committee and should be available before the end of 1956.

Proper Preparation of R.o.p. Copy, Art and Photography

The Joint Report No. 8, Preparation of Copy, Art and Photography for R.o.p. Color Advertising, is a 12-page manual which includes such information as Art Work Best Suited for R.o.p. Color Advertising, Preparation of Color Art, Control of Overprinting, Lettering and Typography and Do's and Don'ts. The information contained in the report is specific but not limited to requirements of any particular newspaper. Any paper considering or running R.o.p. color would benefit from reading this report.

Report of the Mechanical Committee

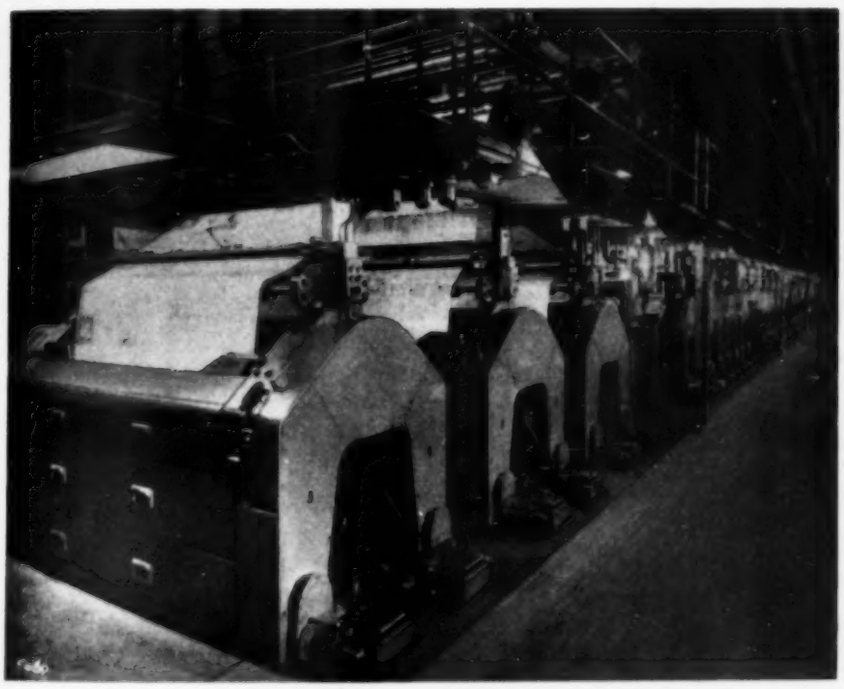
The ANPA Mechanical Committee has the responsibility of compiling information about new developments in mechanical production processes at a practical, workable level, so these new things can be incorporated into the plants of the newspaper industry. So said J. Harold Mintum, chairman of the Mechanical Committee, at the recent ANPA Convention in New York, N. Y. We also have the never-ending job of bringing to our industry information about the newer methods and procedures developed in the various plants over the country and by ANPA Research Institute.

Our Committee meets four times a year to go over new and old developments and plan for the annual Mechanical Conference in June of each year.

Our program this year is the result of extensive planning. Much is happening in the production of newspapers over the country and it is imperative that all publishers keep up with the newer things. At the same time, we have not forgotten the old, tested methods and are covering them.

Newsprint Savings

The activity of the Mechanical Committee stresses the conservation of newsprint and the know-how needed to reduce roll widths or go to the nine column page. While the decision on how you are going to make these savings is up to you, the methods of making the change can be made a great deal easier if you avail yourself of the experiences of the



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Mechanical Department and committee.

ANPA-AAAA Activities

The report of the ANPA-AAAA Joint Committee on Newspaper Printing and newspaper color inks has been sent to all members. The Committee strongly recommends adoption of these color standards by member newspapers.

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Handling Paper

(Continued from Page 74)

equilibrium figure cannot be specified. Here a figure based on the average relative humidity that will prevail in your plant for the season of the year is best to follow. Actually, paper manufacturers must consider an average moisture equilibrium figure when they make a given run of paper that will be used in different areas of the country and under varying conditions of relative humidity. Many paper mills do manufacture paper with an average higher moisture content for spring and summer conditions than they do for fall and winter months which follows logically the weather cycle that will exist in non-conditioned plants.

Summary:

Paper manufacturers do their very best to pack paper and make sure it reaches you in good condition. Careless physical handling causes damaged or unusable paper and this costs money and delays. Store paper under conditions of moderation with respect to temperatures and humidity, that is, avoid extremes. Under any condition keep paper in its original wrappers until it is ready to be used. Rewrap any unused portion that is to be stored for any length of time. Allow plenty of time for cold paper to warm up and keep wrappers on during the warming period. All these precautions will much repay you for any extra effort involved. Remember the old proverb: "An ounce of prevention is worth a pound of cure".

(Concluded)

Variable Response

(Continued from Page 69)

the scale is lost. This reproduction was made using mask No. 1, which in effect does not alter the information passing through the Variable Response Unit. Gray scale No. 2 was made with mask No. 2 and this indicates a density expansion in the dark end of the scale. As may be noted, more steps are apparent in the dark end of the gray scale. Gray scale No. 3, corresponding to mask No. 3, indicates a highlight expansion and if applied to a piece of photographic copy, would give more resolution in the highlight subject matter at the expense of detail in the dark regions. Scale No. 4 indicates a middletone expansion at the expense of details in the highlights and darks. This scale would have the effect of making a piece of flat copy more contrasty. To show the versatility of the apparatus, scale No. 5 was modified in such a way that every other density step in the gray scale was merged into the same density as the preceding step by means of mask No. 5. This would give a unique posterizing effect on a reproduction.

Examples of corrective work

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done with the Variable Response Unit are shown in Figs. 5 and 6. Fig. 5 is a standard halftone of a contrasty piece of copy in which the highlights were overexposed. Mask No. 3 was applied, which gives a tone expansion in the highlight regions and this gave the reproduction indicated in Fig. 6. As may be seen, much greater detail in the highlight regions is apparent. On many occasions, detail has appeared in reproductions which could be observed in the original copy only under very careful scrutiny.

It must be pointed out that local correction work on a piece of copy cannot be obtained by using the Variable Response Unit as indicated. The same change in tonal value applies across the entire piece of copy. If it is desired to increase the resolution by tonal expansion in one section of the copy, then this same modification of tonal values will apply to equivalent densities in the remaining part of the copy.

The Fairchild Variable Response Unit is presently being introduced into the electronic engraving field on an experimental basis. A number of units are being installed on machines already in use. Information from these installations should indicate a great number of engraving problems which can be solved by using the Fairchild Variable Response Unit.

Color Problems

(Continued from Page 84)

produce a good print. Upon his decision rests the quality of the product. Of all his problems, the color problem is the most difficult.

Effects of Lighting

The appearance of the print on paper is dependent on the quality of illumination. Incandescent lighting is yellowish while fluorescent lighting is bluish. For this reason, it is important that the illumination used for viewing originals (the transparencies and reproductions) is standardized.

The quality of lighting is designated by its color temperature. Low wattage incandescent bulbs have a color temperature of 2500-3000 deg. K. Fluorescent lights have color temperatures ranging from 4500 deg. to 6000 deg. The color temperature of North skylight can be much higher.

Color temperature is measured by comparing the color of the light source with the color of a piece of black metal heated to a glowing temperature. The value given to

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the light source is the temperature (Kelvin Scale) of the black metal.

Suitable Light Source

A light source for color judging should contain radiations of all wave lengths. Some lights such as mercury vapor and sodium vapor emit light only in narrow wavelength bands. These are exceptionally poor for color viewing. Other sources have large amounts of radiation in certain parts of the spectrum. These sources can cause difficulty and errors in color judging or matching.

The most satisfactory light for both judging and matching is one which contains substantial amounts of radiation at all wave lengths of the visible spectrum.

If the illumination is incorrect, it is impossible for the pressroom superintendent to do his job. Differences in illumination between the pressroom and the customer's desk account for a large part of the difference of opinion between printer and customer.

Printing Ink Problems

Printing ink film varies in thickness and color strength required for application in the several processes of printing art. This requires constant judgment in the selection and testing of raw materials, both vehicles and colorants, to fit the ink for its proper application.

During the process of production, the printing ink maker runs the whole gamut of such problems as degrees of transparency or opacity, from matte to glossy finishes, with possible changes in appearance from wet to dry films, from sheen to shine, from absorbent to non - absorbent surfaces and throughout the whole range of hue, value and chroma. Black and white are both colorants.

Not only does the requirement change with every class of work, for every change required in processing to approach perfection, but records must be maintained for a duplication of any formula to the standards. Measurement and testing devices and instruments are required for production control and to meet the variable in the printing industry.

Paper and Ink Meet

Paper and ink are brought together in the pressroom to produce the desired end result of the Graphic Arts. These materials which are made available to the pressroom have been very carefully manufactured and controlled so that it is possible to achieve satisfactory production with the ink and paper as supplied. Because any factors related to the

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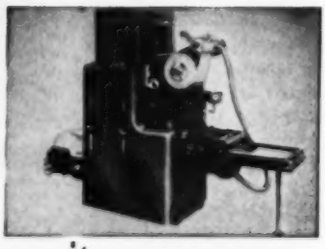

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½"	1.30
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85c per large tube—$6.75 per doz.
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printing process and the paper-ink relation influence the character of the final result, the pressroom personnel has the great responsibility of maintaining critical production controls. Each of the major printing processes has its own peculiarities, and each requires special production controls.

Scientific methods of color uniformity control are being developed.

Art Director's Problem

Based on experience both here and abroad, the principal problem facing the art director is that of judging commercial art on its aesthetic values, strongly influenced as he is by his own quick reactions to the art work or affected by the emotional reactions of his immediate associates.

During the past few years, we have become more aware of this problem, and have therefore started to rely on market research, consumer research, and motivation research. Of course, any type of research is a diagnostical approach and produces only facts about any kind of problem.

The art director has an important function, for he must coordinate all these factors and put

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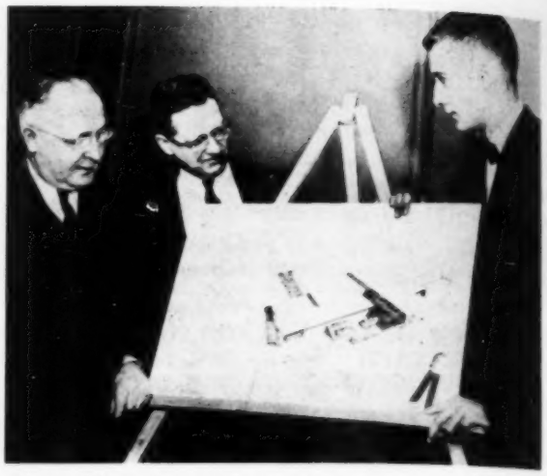
them to creative use. With all the research, he still must make a decision and the problem is not to base this decision on emotional or aesthetic values in the commercial field but to rely on objective data. Today physical and emotional factors can be definitely measured.

Much has been done in the past 10 years and especially in the last 5 to make each of the various Graphic Arts areas aware of problems of processors preceding and following their activity in the chain of events which starts as a piece of copy and ends up as a printed page. In this respect, some 50 specification booklets have been published in the past few years including *Life's Engraving Brochure* published in 1948.

The big job today, especially in the field of mass publishing, is to produce millions of acceptable pages of color printing with only a very small percentage listed in the category of sub-standard.

The publisher also hopes to raise the present high standards of color reproduction by improvements in a standardization of viewing boxes for film transparencies, overhead lighting for viewing and the OK of progressive proofs, greater standardization of hues of multi-color process printing inks, improvement of printing surfaces on the part of the paper manufacturer, and introduction of new techniques in terms of press and binding equipment to produce more copies faster and at more economical unit rates than at present while maintaining reproduction uniformity.

Rust Awards Presented—The annual Rust Architectural Awards were presented to students at Carnegie Institute of Technology. The three 1956 winners received cash prizes from the Rust Engineering Co. for outstanding designs of a book publishing plant. First prize of $100 was presented to David W. Scott of Berea, O. Second prize of $50 was awarded to James T. Knox, Squirrel Hill, Pittsburgh, and the $25 third prize winner was Richard L. Fudge, Philadelphia. Twenty-six student architects took part in the project which was carried out in collaboration with senior students in Carnegie Tech's School of Printing Management. Printing management students played the role of the client about to build a new publishing plant. To acquaint the architectural student with all facets of their problem, Albert H. Fiedler, (A.I.A.) Chief Architect of the Rust Engineering Co., gave talks on industrial architecture, materials handling and cost of building. Directors of the joint project were William R. Taaffe, associate professor of Industrial Administration and John E. Pekruhn, associate professor of Architecture. Shown here are (left to right) John C. Warner, president, Carnegie Institute of Technology; S. M. Rust, jr., president, The Rust Engineering Co., and David W. Scott.



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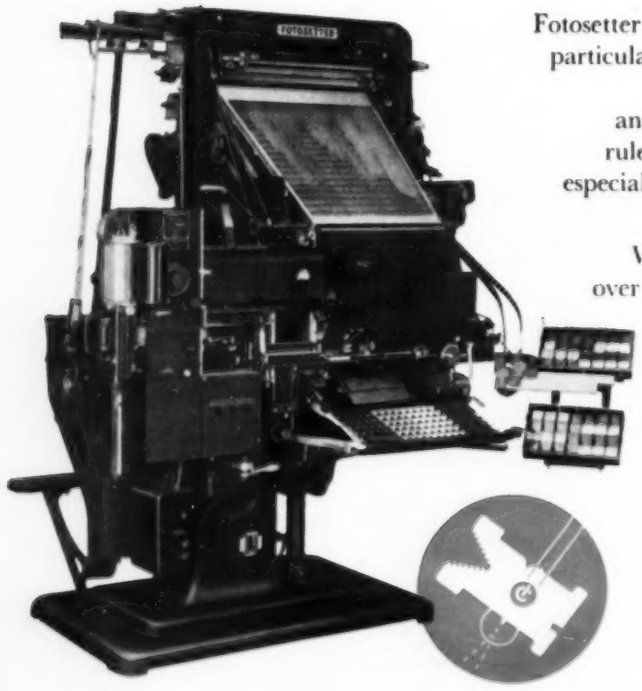
FOTOSETTER way . . .
22 pieces of paper

Conventional way . . .
236 pieces of metal

Which is better and less costly?



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